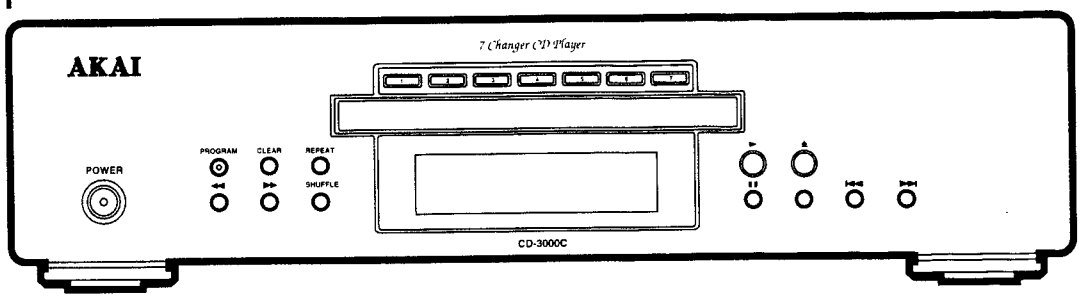
CD-3000C

AKAI SERVICE MANUAL

V20551



COMPACT DISC PLAYER

SPECIFICATIONS MODEL CD-3000C

Pick up	3 beam laser pick up
Pick up system	1 inear tracking
Sampling frequence	44. 1KHz
Digital filter	18 bit, 8 time over sampling
D/A convertor	BICMOS dual 18 bit D/A convertor
Error correction system	Cross Interleave Reed Solomon
Number of channels	2 channels stereo
Dynamic range	93dB
S/N	100dB
THD	0.01%
Wow & flutter	Less then measurable limits
Output level/Impedance	2.0V/560ohm
Power consumption	11W
Power supply	AC 230V/50Hz
Dimension (W×H×D)	438×112×318mm
Weight	6.5Kg

Standard accessories

Signal connection cord	1
Remote control connection cord	1
Operator's manual	1

SMCD3000
SERVICE MANUAL CD3000
604865 Lieferumfang:

* For improvement purposes, specifications and design are subject to change without notice.

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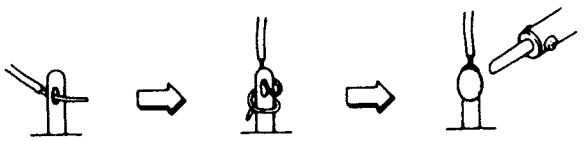
SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts indentified by the ⚠ (*) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with the specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely about the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

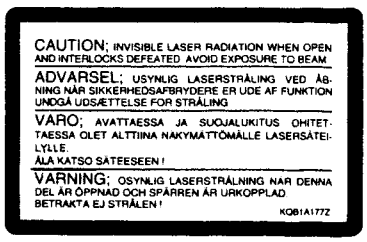
After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input / output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metalparts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can. Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

CLASS 1 LASER PRODUCT

This product contains a low power laser device.
To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product.
Refer any servicing to qualified personnel.
Use actual size stickers

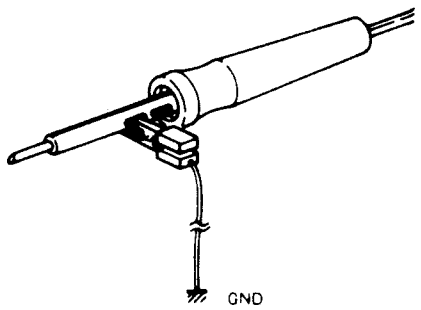

CAUTION; INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM
ADVARSEL; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING
VARO; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NAKYMÄTTÖMÄLLE LASERSÄTEILYLLE.
ÄLA KATSO SÄTEESEEN!
VARNING; OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD BETRAKTA EJ STRÅLEN!
KQB1A177Z

INFORMATION

PRECAUTIONS IN REPAIRING

When repairing or adjusing the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal obiects in the narrow gap between the P.C.board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing.
   While soldering, please take the precautions against leakage as in the illustration.



4. Do not loosen any screws in the pick-up block.
   When handing the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (Objective lens) directly.
6. Models for the some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.

SYMBOLS FOR PRIMARY DESTINATION

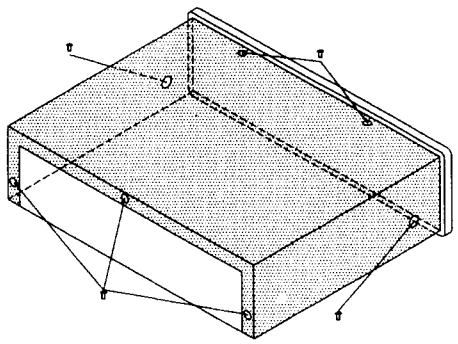
Primary destination of units are indicated with the following alphabet.

Symbols	Principal Destinations
B	UK
E	Europe (except UK)
S	Australia
U	Universal Area
Y*	Custom version

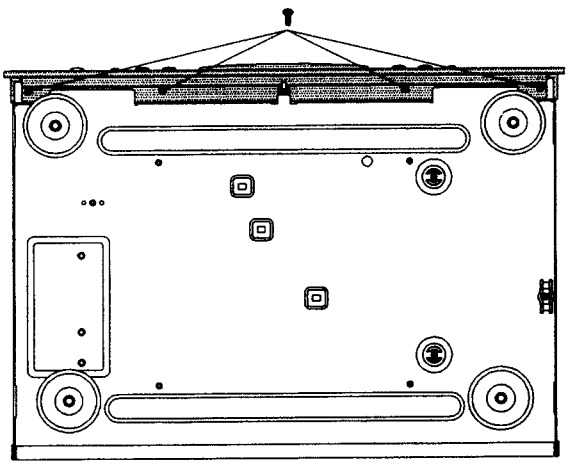
I . DISASSEMBLY

In case of trouble, etc., necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in the reverse order.

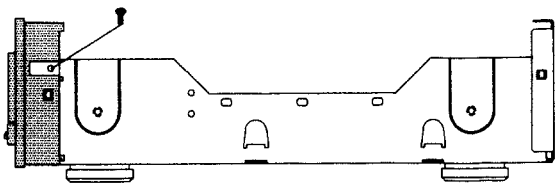
1) REMOVAL OF TOP COVER.



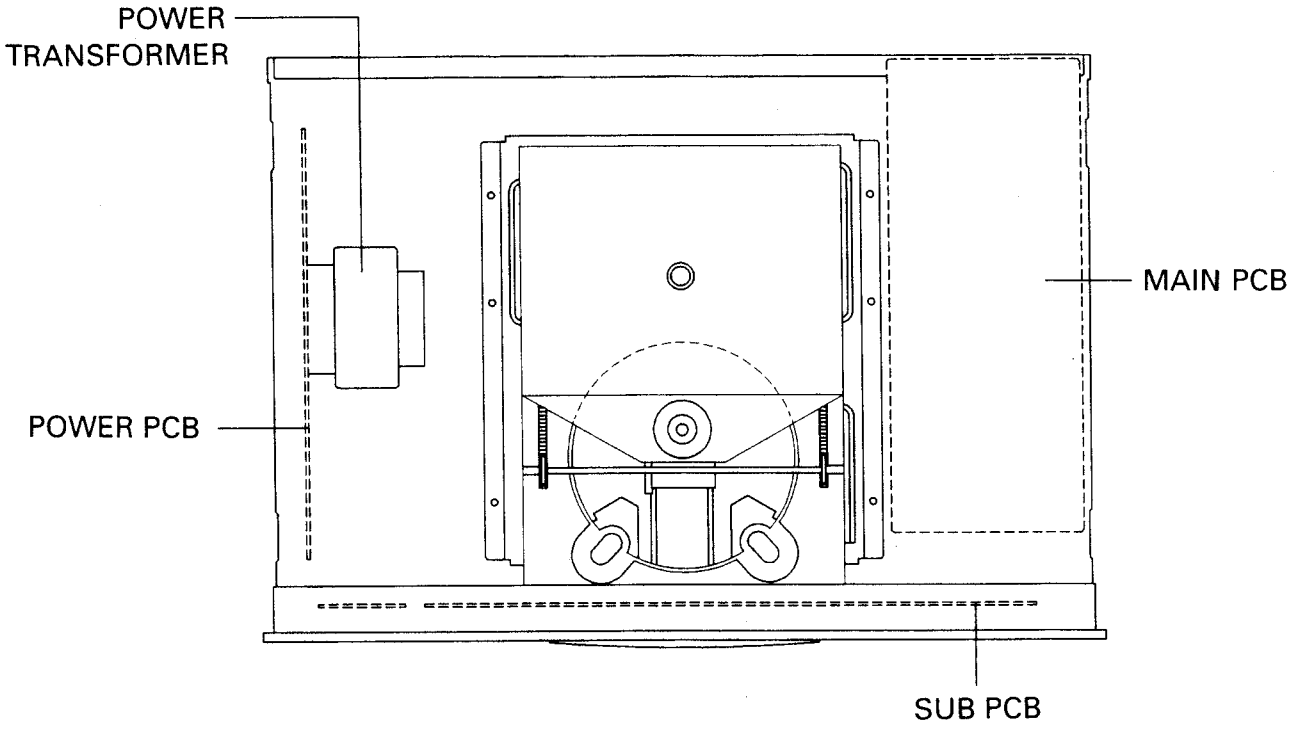
2) REMOVAL OF FRONT PANEL.



Remove the six screws by pulling them out.



Ⅱ. PRINCIPAL PARTS LOCATION



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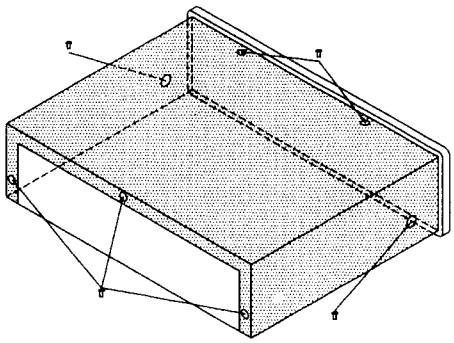

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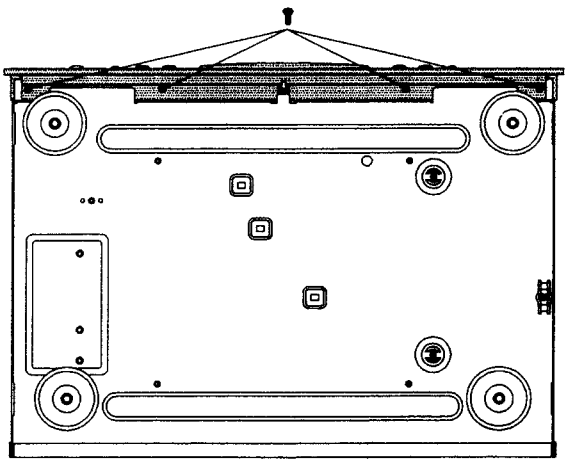

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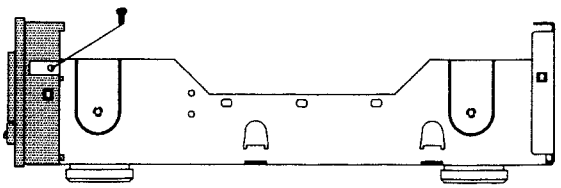

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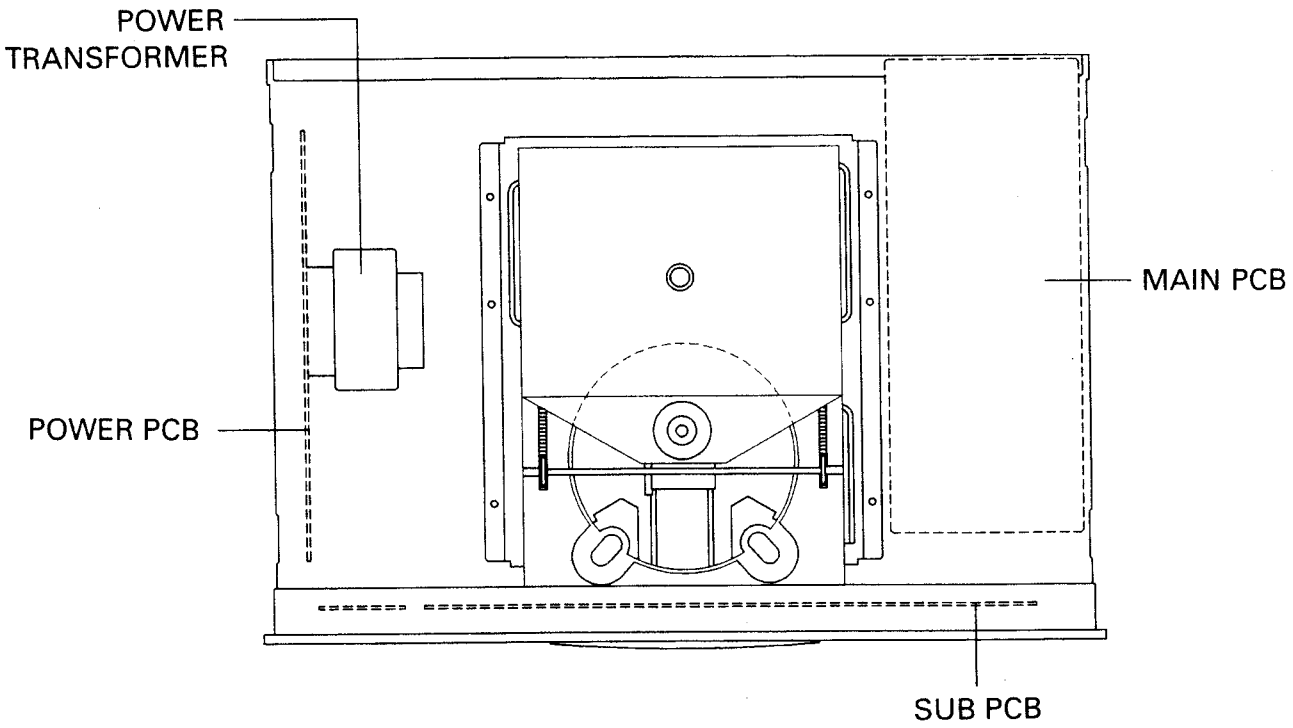

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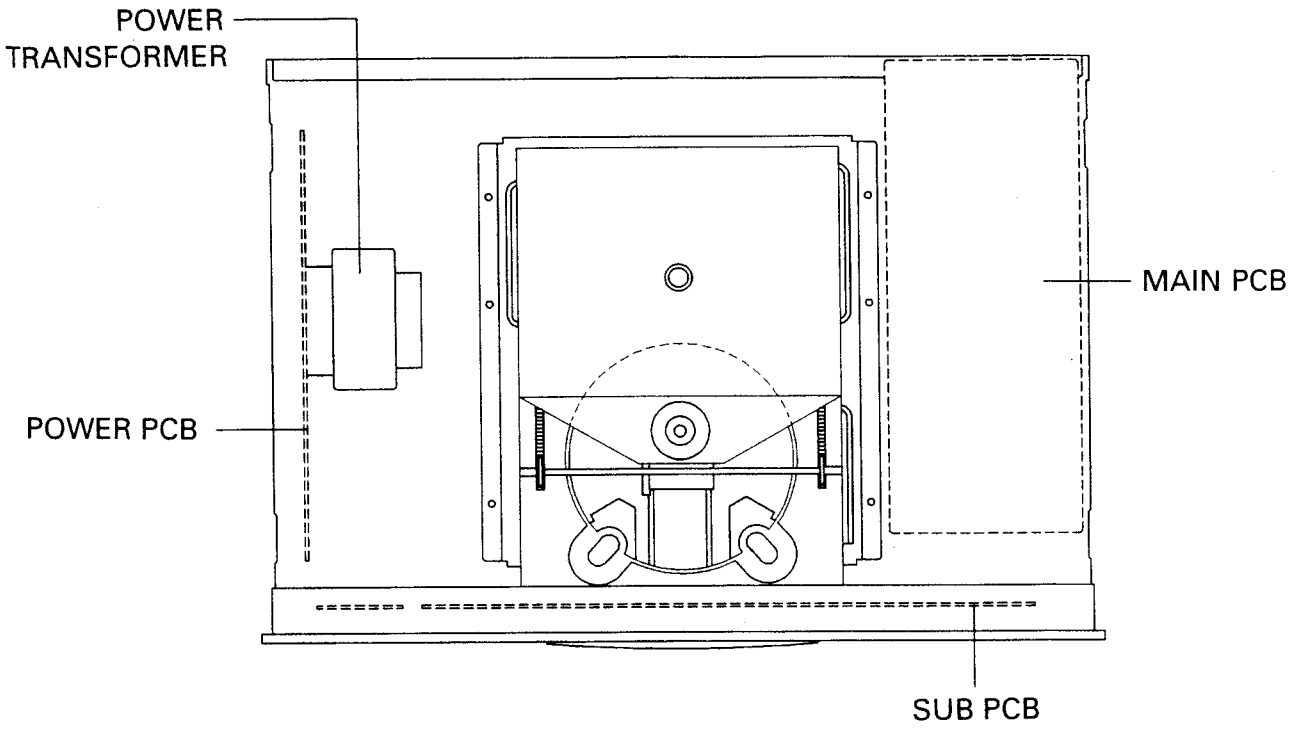

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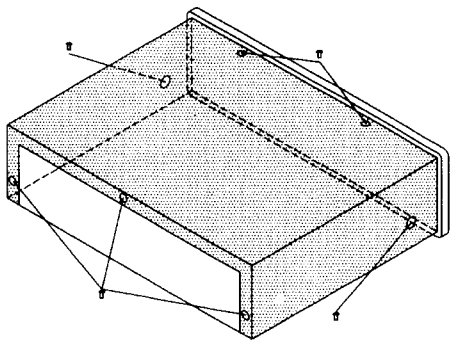

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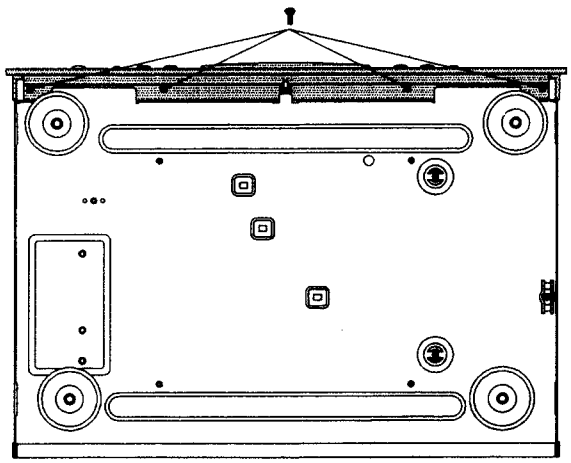

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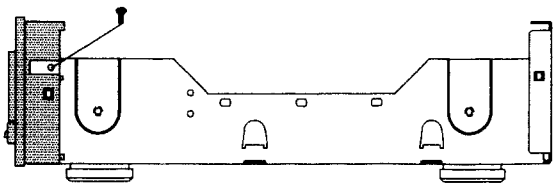

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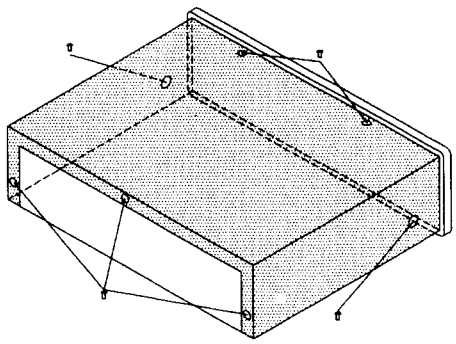

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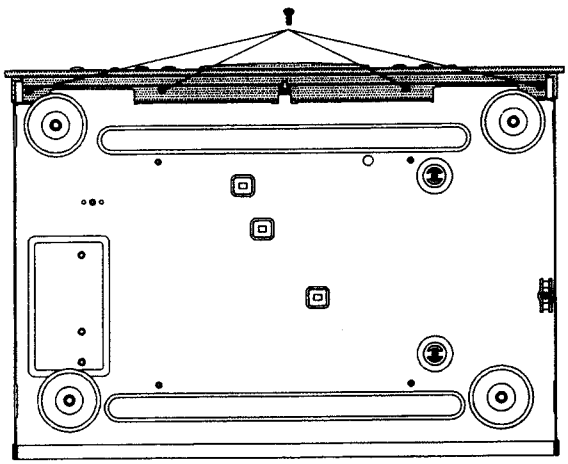

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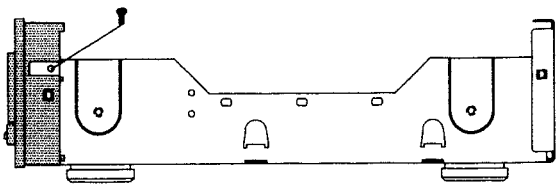

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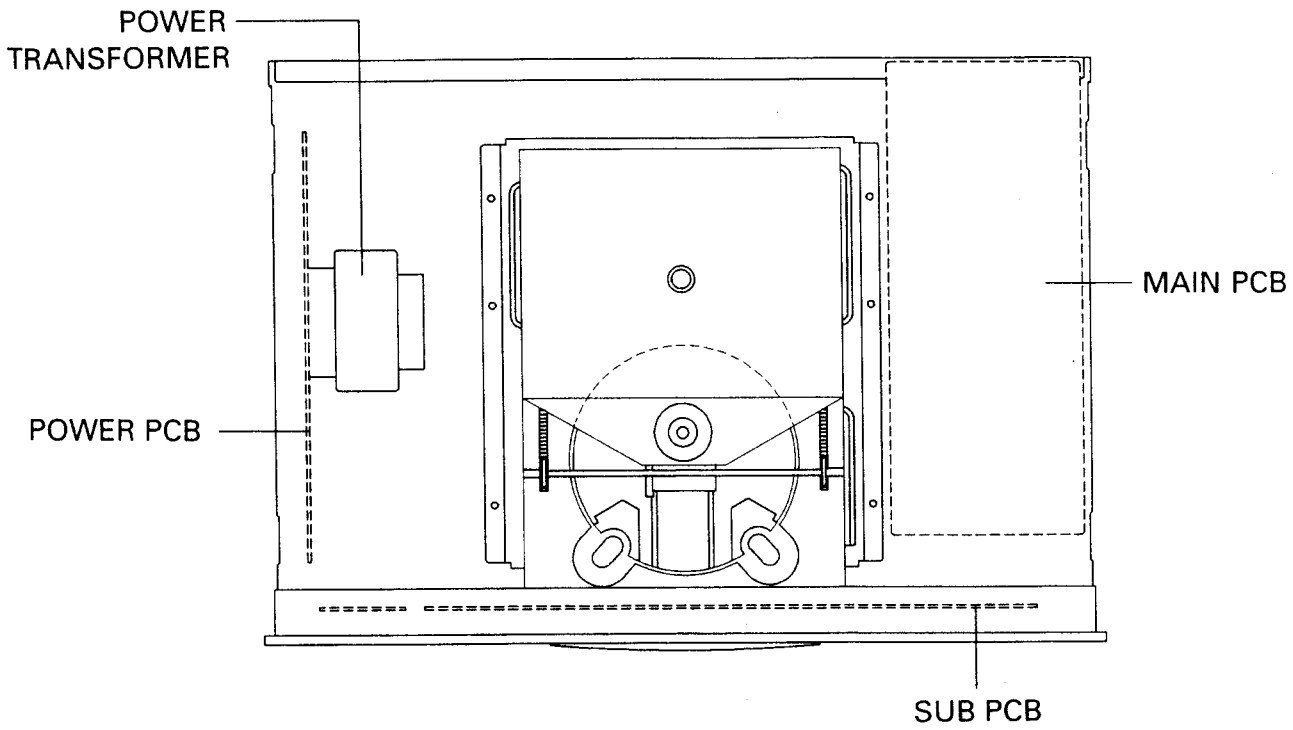


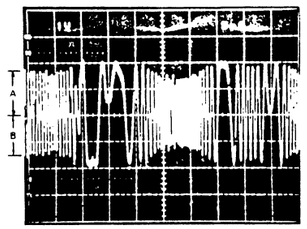
Ⅲ. ELECTRICAL ADJUSTING

2 E/F BALANCE ADJUSTMENT

1.Play the Test disc. (TCD-725, Track 1)
2.connect an oscilloscope to R530(2.2k).
3.

VR03 turn fully clockanti,
adjust the VR04 so that A = B.

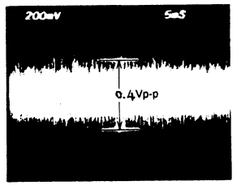
(Fig. 2)

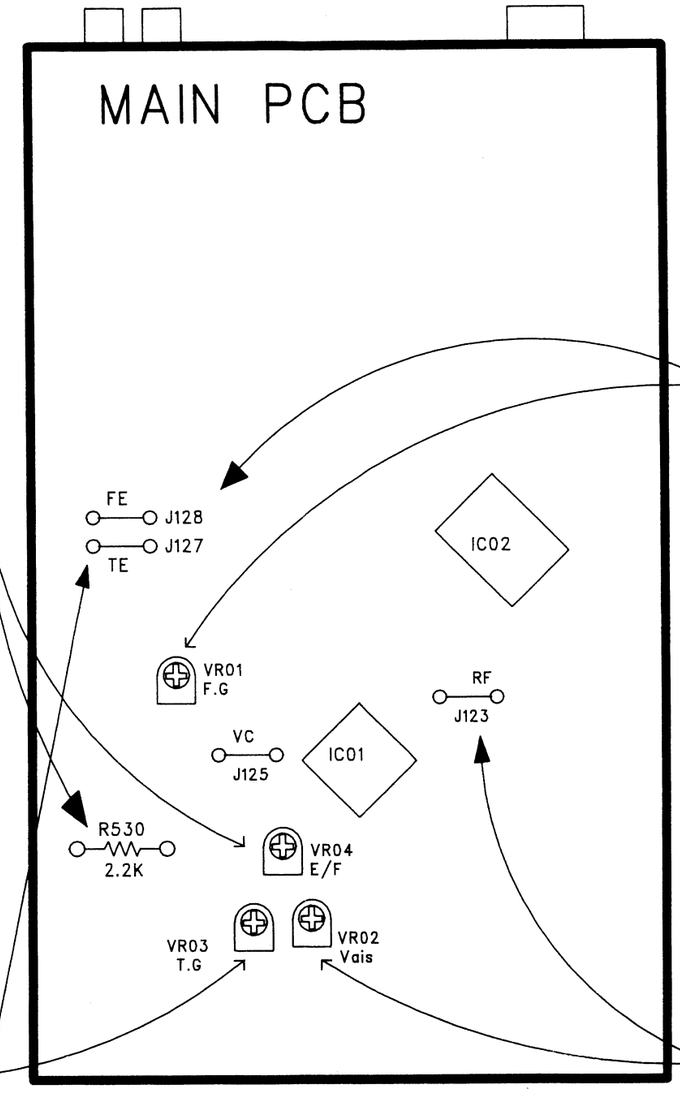


4 TRACKING GAIN ADJUSTMENT

1.play the Test disc.(TCD-725, Track 1)
2.connect an oscilloscope to J127.
3.adjust the VR03.

(Fig. 4)

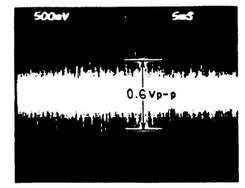




3 FOCUS GAIN ADJUSTMENT

1.play the test disc,(TCD-725,Track 1)
2.connect an oscilloscope to CN06-1.
3.adjust the VR01.

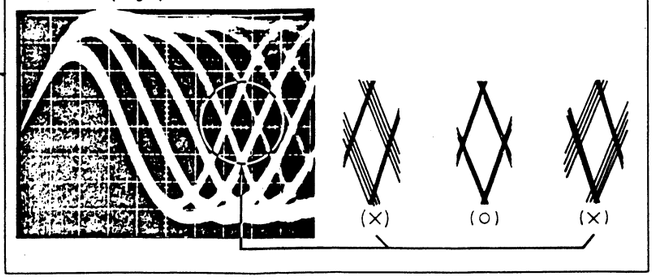
(Fig. 3)



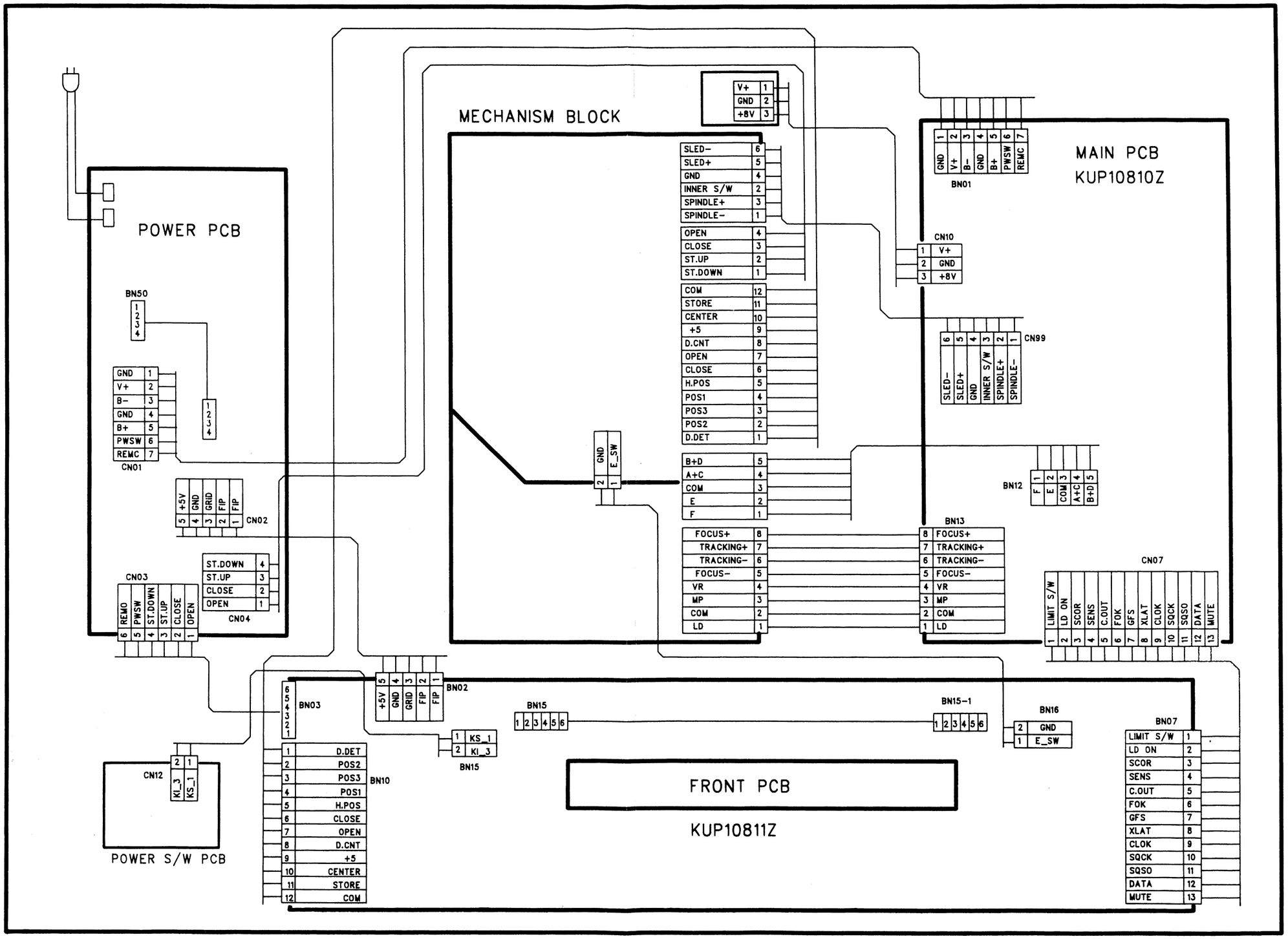
1 FOCUS OFF SET ADJUSTMENT

1.Play the test disc. (A-BEX TCD-725, Track 1)
2.Adjust VR02 so that the eye pattern of RF signsl is open widest.

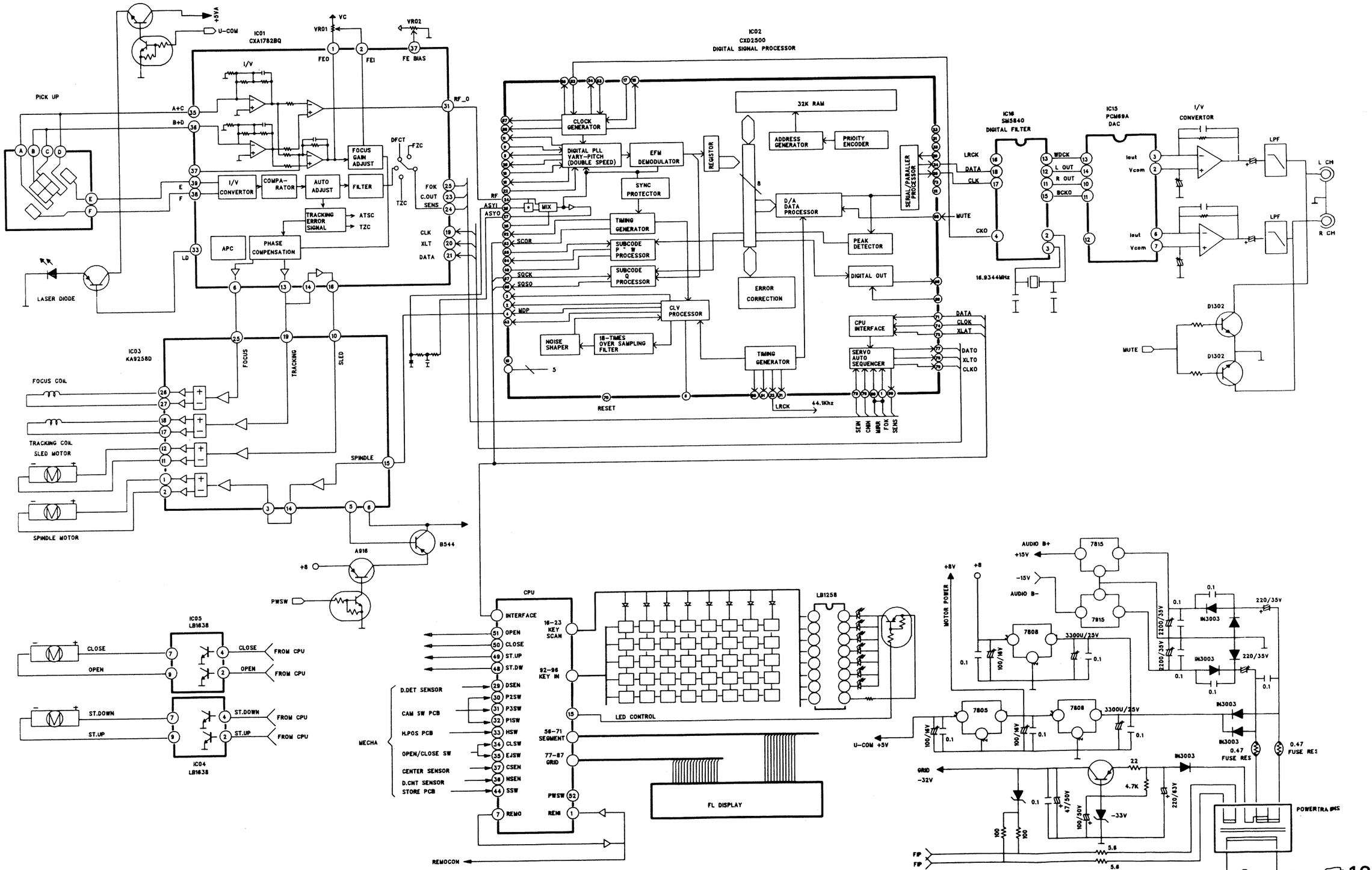
(Fig.1)



Ⅳ. WIRING DIAGRAM



Ⅴ. BLOCK DIAGRAM

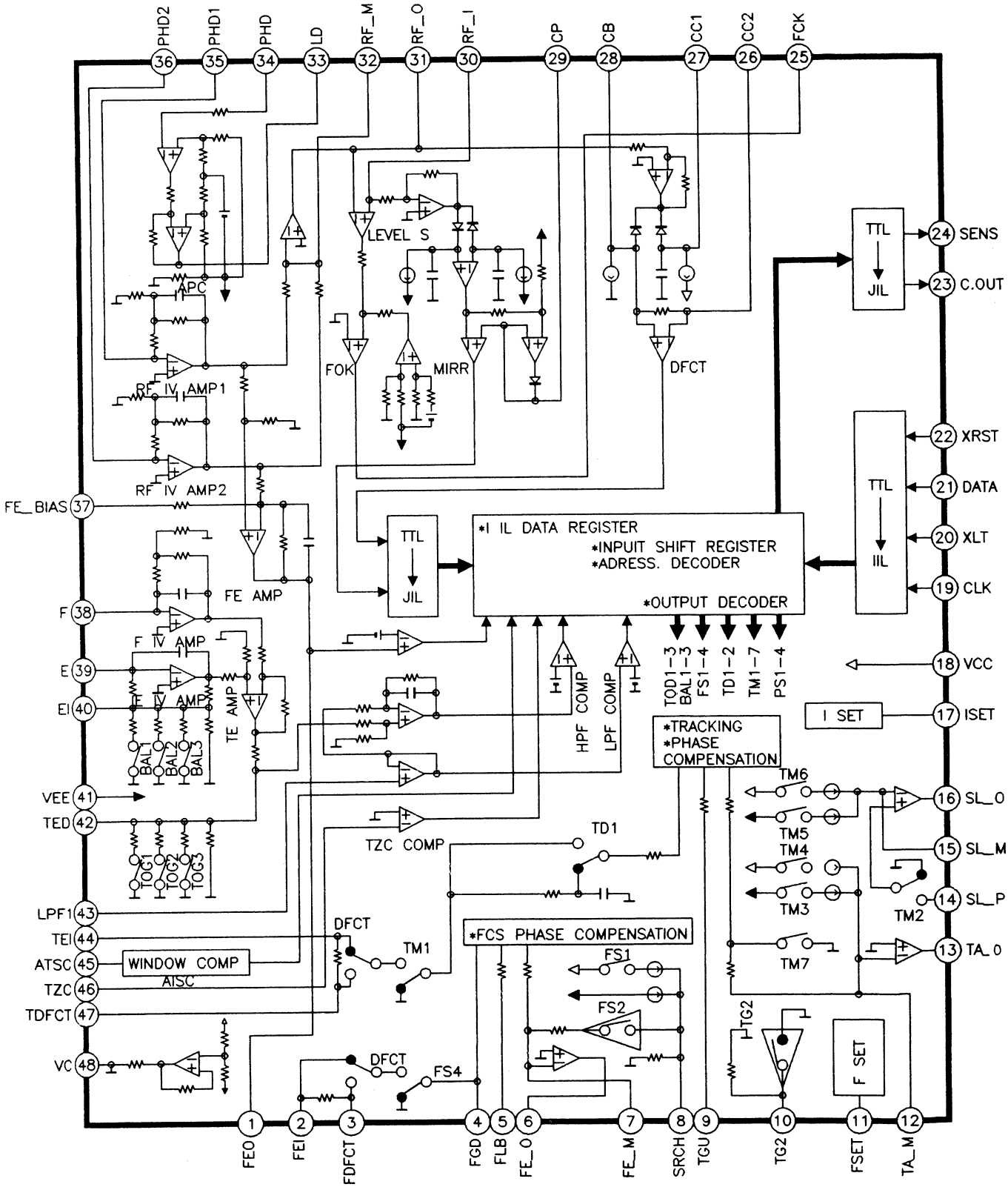


IC PIN DESCRIPTION

CXA1782BQ(RF AMP + Servo Signal Processor)

NO.	SYMBOL	I/O	DESCRIPTION
1	FEO	I	Focus error amplifiler output. Connected internally to the FZC comparator input.
2	FEI	I	Focus error input.
3	FDFCT	I	Capacitor connection pin for defect time constant.
4	FGD	I	Ground this pin through a capacitor when decreasing the focus servo high frequency gain.
5	FLB	I	External time constant setting pin for increasing the focus servo low frequency.
6	FE-O	O	Focus drive output.
7	FE-M	I	Focus amplifiler negative input pin.
8	SRCH	I	External time constant setting pin for generating focus servo waveform.
9	TGU	I	External time constant setting pin for switching tracking high-frequency gain.
10	TG2	I	External time constant setting pin for switching tracking high-frequency gain.
11	FSET	I	High cut off frequency setting pin for focus & tracking phase compensation amplifiler.
12	TA-M	I	Tracking amplifiler negative input.
13	TA-O	O	Tracking drive output.
14	SL-P	I	Sled amplifiler non-inversed input.
15	SL-M	I	Sled amplifiler negative input.
16	SL-O	O	Sled drive output.
17	ISET	I	Setting pin for focus search, track jump, & sled kick current.
18	VCC		+5V
19	CLK	I	Serival data transfer clock input from CPU (no pull up register)
20	XLT	I	Latch input from CPU (no pull up res)
21	DATA	I	Serial data input from CPU
22	XRST	I	Reset input (reset at low)
23	C. OUT	O	Track number count signal output
24	SENS	O	Output FZC, DFCT, TZC, gain, balance, and other according to the command from CPU.
25	FOK	O	Focus OK comparator output.
26	CC2	O	Input pin for the DEFECT bottom hold output capacitance-coupled.
27	CC1	I	DEFECT bottom hold output
28	CB	I	Connection pin for DEFECT bottom hold capacitor.
29	CP	I	Connection pin for MIRR hold capacitor MIRR comparator non-inverced input.
30	RF-I	I	Input pin for the RF summing amplifier output capacitance coupled.
31	RF-O	O	RF summing amplifier output. Eye pattern check point.
32	RF-M	I	RF summing amplifier inverced input. The RF amplifier gain is determined by the resistance conneted between this pin & RFO pin.
33	LD	O	APC amplifier output.
34	PHD	I	APC amplifier input.
35	PHD 1	I	RF I-V amplifier inverced input.
36	PHD 2	I	Connect these pins to the photo diode A+C & B+D pins.
37	FE-BIAS	I	Bias adjustment of focus error amplifier.
38	F	I	F I-V and E I-V amplifier inverced input. Connect these pins to photo diode F & E.
39	E	I	
40	EI	-	I-V amplifier E gain adjustment. (When not using automatic balance adjustment)
41	GND		GND
42	TEO	O	Tracking error amplifier output E-F signal is output is input.
43	LPF1	I	Comparator input for balance adjustment. (input from TEO through LPF)
44	TEI	I	Tracking error input.
45	ATSC	I	Windows comparator input for ATSC detection.
46	TZC	I	Tracking zero-cross comparator input.
47	TDFCT	I	Capacitor connection pin for defect time constant.
48	VC	O	(VCC+GND)/2 DC voltage output.

CXA1782 BQ

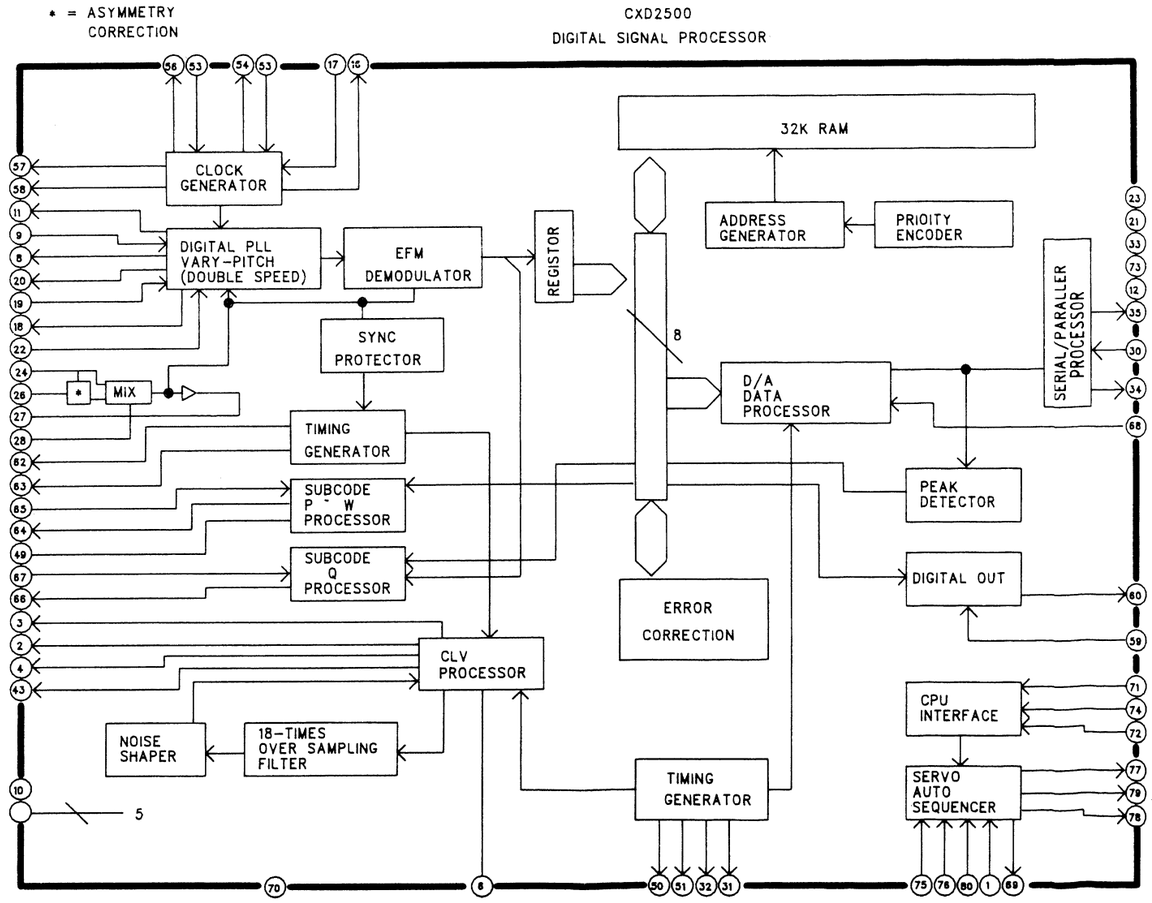

PHD2
PHD1
PHD
LD
RF_M
RF_O
RF_I
CP
CB
CC1
CC2
FCK
36
35
34
33
32
31
30
29
28
27
26
25
LEVEL S
APC
FOK
MIRR
DFCT
RF I/V AMP1
RF I/V AMP2
TTL
JIL
24 SENS
23 C.OUT
22 XRST
21 DATA
20 XLT
19 CLK
IIL
18 VCC
17 ISET
I SET
FE_BIAS 37
*I IL DATA REGISTER
*INPUIT SHIFT REGISTER
*ADRESS. DECODER
*OUTPUT DECODER
FE AMP
F 38
F I/V AMP
E 39
E I/V AMP
EI 40
TE AMP
BAL1
BAL2
BAL3
HPF COMP
LPF COMP
TOD1-3
BAL1-3
FS1-4
TD1-2
TM1-7
PS1-4
*TRACKING
*PHASE
COMPENSATION
TM6
TM5
TM4
TM3
TM2
TM7
16 SL_O
15 SL_M
14 SL_P
13 TA_O
VEE 41
TED 42
TZC COMP
TD1
TOG1
TOG2
TOG3
LPF1 43
TEI 44
ATSC 45
TZC 46
TDFCT 47
VC 48
WINDOW COMP
AISC
DFCT
TM1
*FCS PHASE COMPENSATION
FS1
FS2
FS4
TG2
F SET
1 FEO
2 FEI
3 FDFCT
4 FGD
5 FLB
6 FE_O
7 FE_M
8 SRCH
9 TGU
10 TG2
11 FSET
12 TA_M

CXD2500BQ (DIGITAL Signal Processor)

NO.	SYMBOL	I/O		DESCRIPTION
1	FOK	I		Focus OK input. Used for SENS output and servo auto sequencer.
2	FSW	O	Z, O	Output used to switch the spindle motor output filter.
3	MON	O	I, O	Output for spindle motor ON/OFF control.
4	MDP	O	I, Z, O	Output for spindle motor servo control.
5	MDS	O	I, Z, O	Output for spindle motor servo control.
6	LOCK	O	I, O	Output is "H" when the GFS signal sampled at 460Hz is "H". Output is "L" when the GFS signal is "L" 8 or more times in succession.
7	NC	———		
8	VCOO	O	I, O	Output of oscillation circuit for analog EFM PLL.
9	VCOI	I		Input to oscillation circuit for analog EFM PLL. fLOCK=8.6436MHz
10	TEST	I		Test. Normally at 0V (GND)
11	PDO	O	I, Z, O	Output of charge pump for analog EFM PLL.
12	VSS			GND
13	NC	———		
14	NC	———		
15	NC	———		
16	VPCO	O	I, Z, O	Output of charge pump for vari-pitch PLL.
17	VCKI	I		Clock input from external VCO for vari-pitch control. fccenter=16.9344MHz
18	FILO	O	Analog	Output of filter for master PLL(Slave=Digital PLL).
19	FILI	I		Input to filter for master PLL.
20	PCO	O	I, Z, O	Output of charge pump for master PLL.
21	AVSS			Analog GND.
22	CLTV	I		VCO control voltage input for master PLL.
23	AVDD			Analog power supply (+5V).
24	RF	I		EFM signal input.
25	BIAS	I		Asymmetry circuit constant current input.
26	ASYI	I		Asymmetry comparator circuit voltage input.
27	ASYO	O	I, O	EFM full-swing output
28	ASYE	I		Asymmetry circult OFF at "L". Asymmetry circuit ON at "H".
29	NC	———		
30	PSSL	I		Input used to switch the audio data output mode. "L" for serial output, "H" for parallel output.
31	WDCK	O	I, O	D/A interface for 48 bit slot. Word clock f=2Fs.
32	LRCK	O	I, O	D/A interface for 48 bit slot. LR clock f=Fs.
33	VDD			Power supply(+5V).
34	DA16	O	I, O	Outputs DA16(MSB) when PSSL=1, or serial data from the 48 bit slot (2's complements, MSB first) when PSSL=O.
35	DA15	O	I, O	Outputs DA15 when PSSL=1, or bit clock from the 48 bit slot when PSSL=O.

NO.	SYMBOL	I/O		DESCRIPTION
36	DA14	O	I, O	Output DA14 when PSSL=1, or serial data from the 64 bit slot (2's complements, LSB first) when PSSL=O.
37	DA13	O	I, O	Outputs DA13 when PSSL=1, or bit clock from the 64 bit slot when PSSL=O.
38	DA12	O	I, O	Outputs DA12 when PSSL=1, or LR clock from the 64 bit slot when PSSL=O.
39	DA11	O	I, O	Outputs DA11 when PSSL=1, or GTOP when PSSL=O.
40	DA10	O	I, O	Outputs DA10 when PSSL=1, or XUGF when PSSL=O.
41	DA09	O	I, O	Outputs DA9 when PSSL=1, or XPLCK when PSSL=O.
42	DA08	O	I, O	Outputs DA8 when PSSL=1, or GFS when PSSL=O.
43	DA07	O	I, O	Outputs DA7 when PSSL=1, or RFCK when PSSL=O.
44	DA06	O	I, O	Outputs DA6 whenPSSL=1, or C2PO when PSSL=O.
45	DA05	O	I, O	Outputs DA5 when PSSL=1, or XRAOF when PSSL=O.
46	DA04	O	I, O	Outputs DA4 when PSSL=, or MNT3 when PSSL=O.
47	DA03	O	I, O	Outputs DA3 when PSSL=1, or MNT2 when PSSL=O.
48	DA02	O	I, O	Outputs DA2 when PSSL=1, or MNT1 when PSSL=O.
49	DA01	O	I, O	Outputs DA1 when PSSL=1, or MNT0 when PSSL=O.
50	APTR	O	I, O	Control output for aperture correction. "H" for R ch.
51	APTL	O	I, O	Control output for aperture correction. "H" for L ch.
52	Vss			GND
53	XTAI	I		Input for 16.9344MHz and 33.8688MHz X'tal oscillation circuit.
54	XTAO	O	I, O	Output for 16.9344MHz X'tal oscillation circuit.
55	XTSL	I		X'tal selection input "L" for 16.9344MHz X'tal, "H" for 33.8688MHz X'tal.
56	FSTT	O	I, O	2/3 frequency demultiplication output for Pins 53 and 54. Unaffected by vari-pitch control.
57	C4M	O	I, O	4.2336MHz output. Subject to vari-pitch control.
58	C16M	O	I, O	16.9344MHz output. Subject to vari-pitch control.
59	MD2	I		Digital Out ON/OFF control. "H" for ON, "L" for OFF.
60	DOUT	O	I, O	Digital Out output.
61	EMPH	O	I, O	"H" for playback disc provided with emphasis, "L" for without emphasis.
62	WFCK	O	I, O	WFCK(Write Frame Clock) output.
63	SCOR	O	I, O	"H" when subcode Sync S0 or S1 is detected.
64	SBSO	O	I, O	Serial outpout of Sub P to W.
65	EXCK	I		Clock input for reading SBSO.
66	SQSO	O	I, O	Outputs 80 bit Sub Q and 16 bit PCM peak level data.
67	SQCK	I		Clock input for reading SQSO.
68	MUTE	I		"H" for muting, "L" for release.
69	SENS	-	I, Z, O	SENS output to CPU.
70	XRST	I		System reset. "L" for resetting.
71	DATA	I		Inputs serial data from CPU.
72	XLAT	I		Latches serial data input from CPU at falling edge.

Pin NO.	SYMBOL	I/O		DESCRIPTION
73	VDD			Power supply (+5V).
74	CLOK	I		Inputs serial data transfer clock from CPU.
75	SEIN	I		Inputs SENSE from SSP.
76	CNIN	I		Inputs track jump count signal.
77	DATO	O	I, O	Outputs serial data to SSP.
78	XLTO	O	I, O	Latches serial data output to SSP at falling edge.
79	CLKO	O	I, O	Outputs serial data transfer clock to SSP.
80	MIRR	I		Inputs mirror signal to be used by auto sequencer when jumping 16 or more tracks.

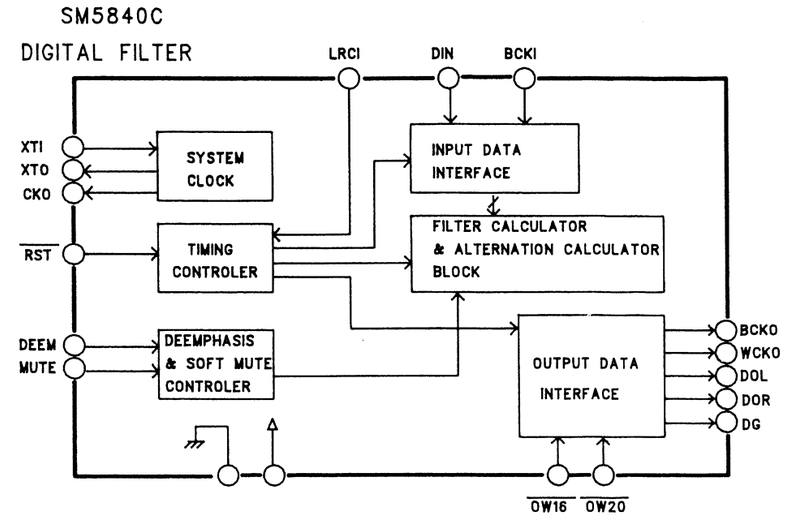


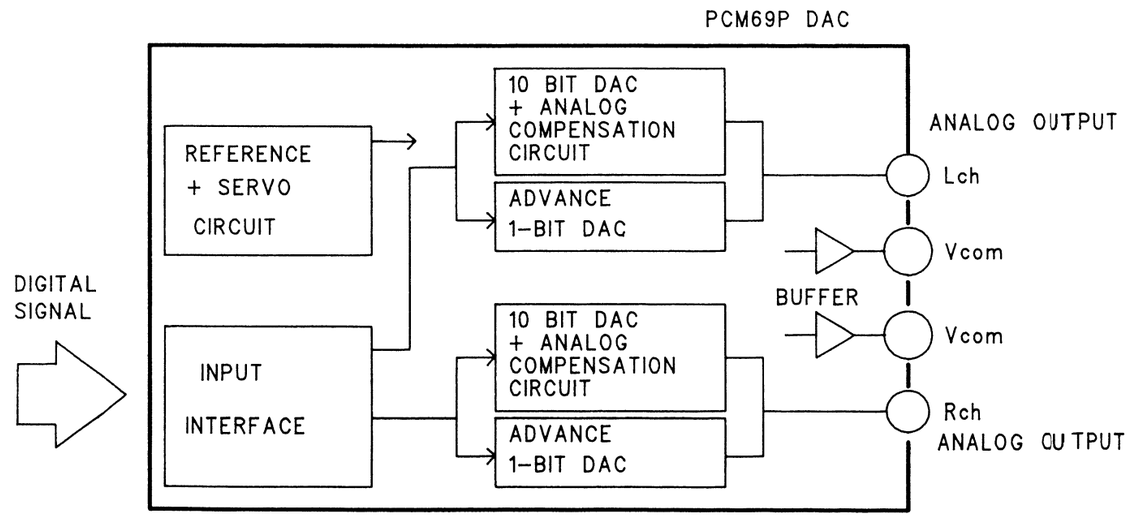
SM5840C (DIGITAL FILTER)

NO.	SYMBOL	I/O	DESCRIPTION				
1	$\overline{OW16}$	Ip	Select pin for output bit	SELECT		$\overline{OW20}$ H	$\overline{OW20}$ L
				$\overline{OW16}$	H	18-bit (NS-ON)	20-bit (NS-ON)
					L	16-bit (NS-ON)	18-bit (NS-OFF)
2	XTI	I	X-tal input.				
3	XTO	O	X-tal output.				
4	CKO	O	OSC output.				
5	Vss		Ground.				
6	OW20	Ip	Select pin for output bit	OW20=L	18 or 20bit		
				OW20=H	18 or 16bit		
7	DEEM	Ip	Deemphasis signal input.				
8	MUTE	Ip	Mute signal input.				
9	RST	Ip	System reset.				
10	DG	O	Deglitch output.				
11	DOR	O	Rch data output.				
12	DOL	O	Lch data output.				
13	WCKO	O	Word clock output.				
14	VDD		VDD, +5V.				
15	BCKO	O	Bit clock output.				
16	LRCI	Ip	Sampling clock.				
17	BCKI	Ip	Bit clock input.				
18	DIN	Ip	Data input.				

PCM69AP (D/A CONVERTOR)

NO.	SYMBOL	DESCRIPTION
1	VCC	VCC. Analog +5V.
2	Vcom. L-ch	Reference Voltage(3.5V).
3	Lout. L-ch	L-ch current output.
4	Servo DC	Servo filter.
5	REF. DC	Reference filter.
6	Lout. R-ch	R-ch current output.
7	Vcom, R-ch	Reference Voltage (3.5V).
8	A-GND	Ground (Analog).
9	D-GND	Ground (Digital).
10	Data, R-ch	R-ch data input.
11	BCK	Bit clock input.
12	SYS CLK	System clock input.
13	WDCK	Word clock input (44.1k).
14	Data, L-ch	L-ch data input.
15	TP1	Select pin for input data format.
16	VDD	VDD, Digital +5V.





MECHA SENSOR

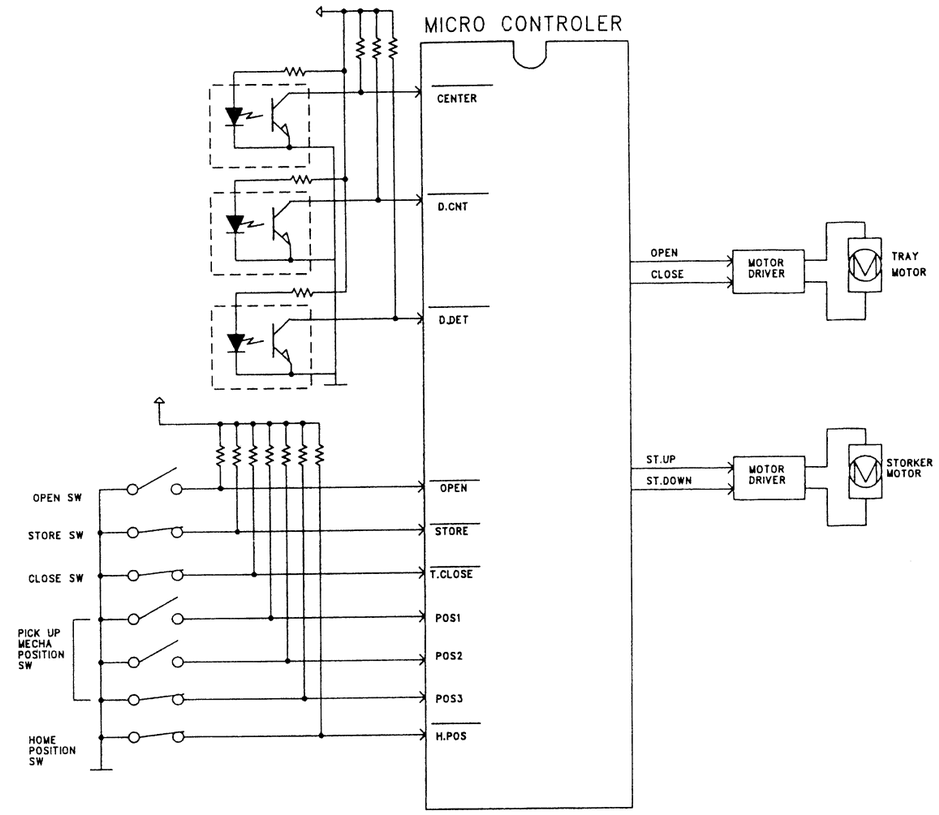
NO.	SENSOR NAME	KIND	DESCRIPTION
1	$\overline{\text{OPEN}}$	MECHANICAL SW	"L" when the tray has opened.
2	$\overline{\text{STORE}}$	MECHANICAL SW	"L" when the tray is closed and the carriage is in the stocker.
3	$\overline{\text{T. CLOSE}}$	MECHANICAL SW	"L" when the tray is closed.
4	POS1	MECHANICAL SW	Sensor detecting the position of Pick-up Mecha.
5	POS2	MECHANICAL SW	
6	POS3	MECHANICAL SW	
7	$\overline{\text{H. POS}}$	MECHANICAL SW	"L" when the stocker is inhome position.
8	$\overline{\text{CENTER}}$	PHOTO INTERRUPTER	"L" when the tray is in Center position. (Pick-up can be moved upward and downward.). At this moment, the tray is to be closed. If T. CLOSE is in the condition of H, Center is not operational.
9	$\overline{\text{D. CNT}}$	PHOTO INTERRUPTER	Sensor detecting the disc position of the stocker "L" when the carriage enters inward from the outside.
10	$\overline{\text{D. DET}}$	PHOTO REFLECTOR	Sensor detecting the existence of disc detectable when the tray is in Center Position. "L" when a disc exits.

MOTOR DRIVER

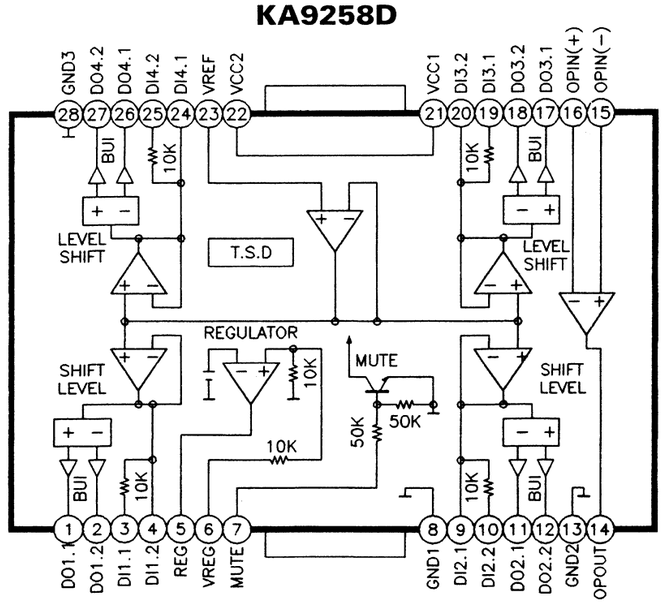
OPEN	CLOSE	OPERATING
H	H	MOTOR STOP (BREAK)
H	L	TRAY OPEN
L	H	TRAY CLOSE
L	L	MOTOR STOP

ST. UP	ST. DOWN	OPERATING
H	H	MOTOR STOP(BREAK)
H	L	STORKER UP
L	H	STORKER DOWN
L	L	MOTOR STOP

MECHANISM BLOCK



KA9258D



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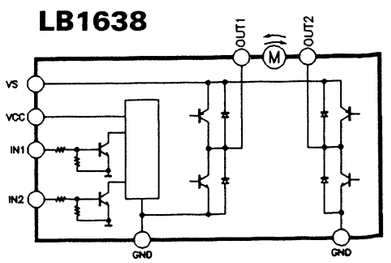
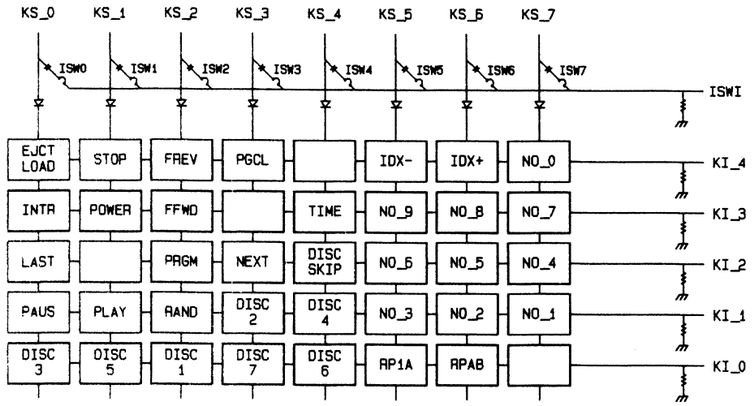




Notes on Initial Option Diode SW.

ISW0 : If DIODE-SW ON, Custom Edit Time.
Else, C30/C60/C90 Only.

ISW1 : If DIODE-SW ON, Test-mode Enable.

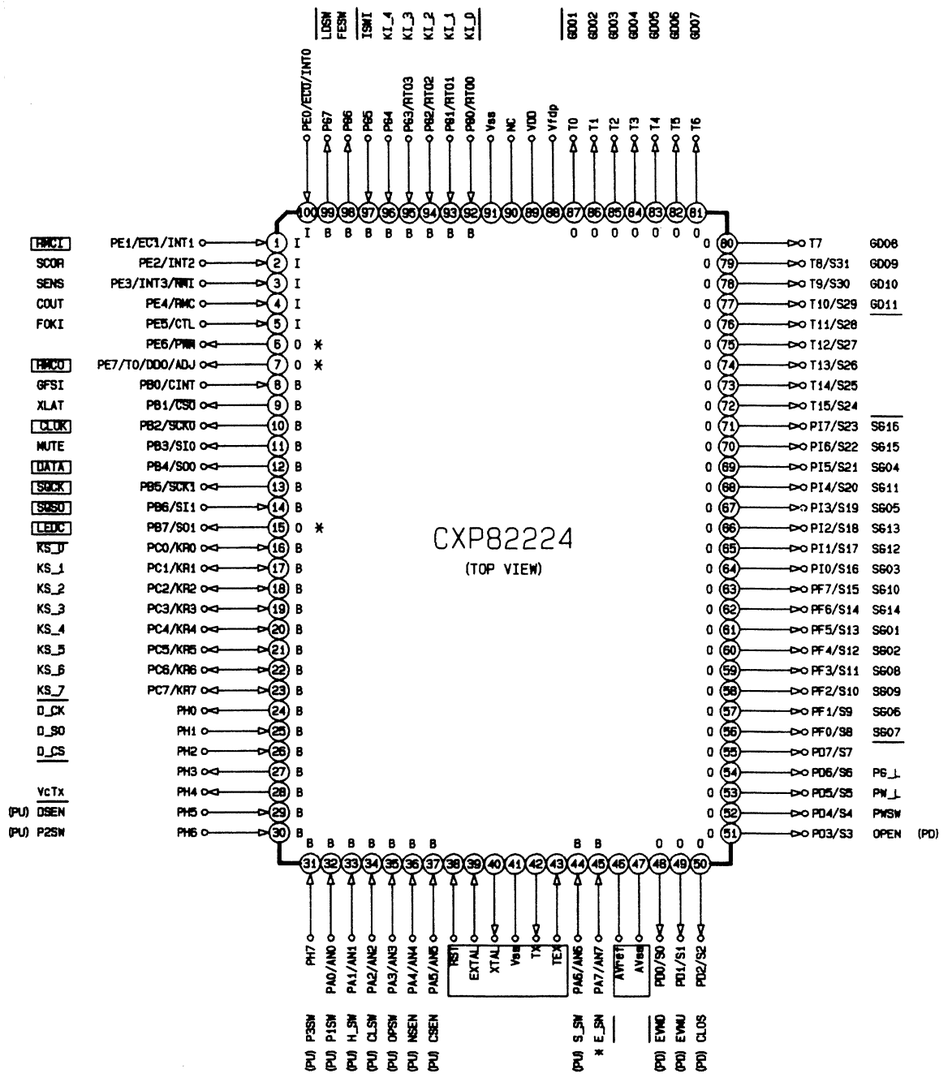
ISW2 : If DIODE-SW ON, Mechanical PW-SW.

ISW3 : If DIODE-SW ON, Double Speed PLL.

ISW4 : If DIODE-SW ON, Chuck-SW Enable.

ISW5 : If DIODE-SW ON, Auto-Adj.Disable.

ISW6 : If DIODE-SW ON, Auto-Play Enable.

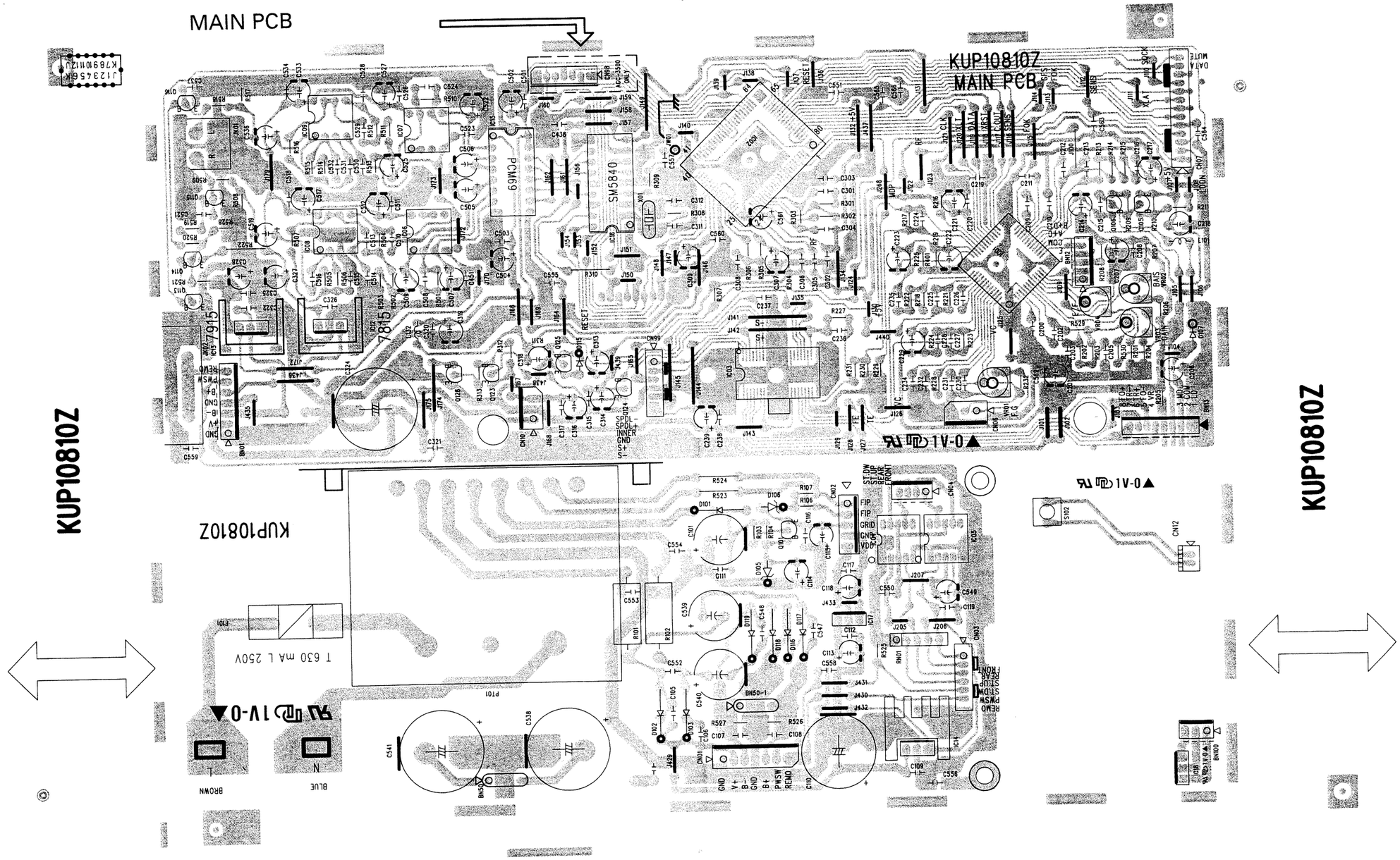


NOTE: 1) "I" means INP. ONLY port.
"O" means OUT. ONLY port.
"B" means I/O. BOTH port.

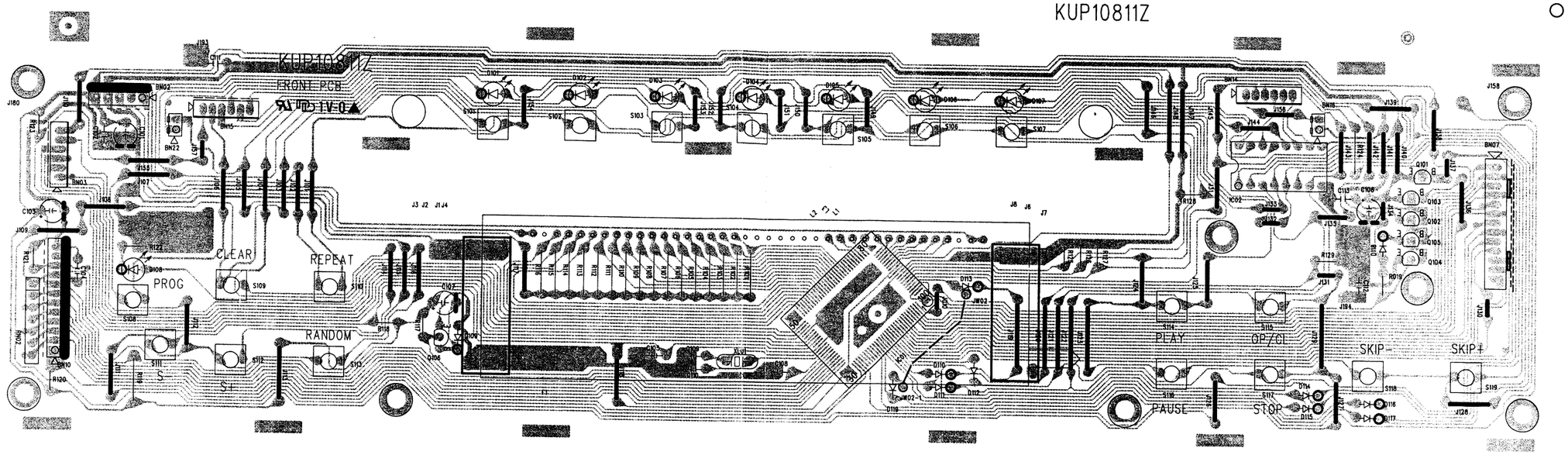
2) PU means PULL-UP resistor should be attached.
PD means PULL-DN resistor should be attached.

Ⅶ. PRINTED CIRCUIT BOARDS

MAIN PCB

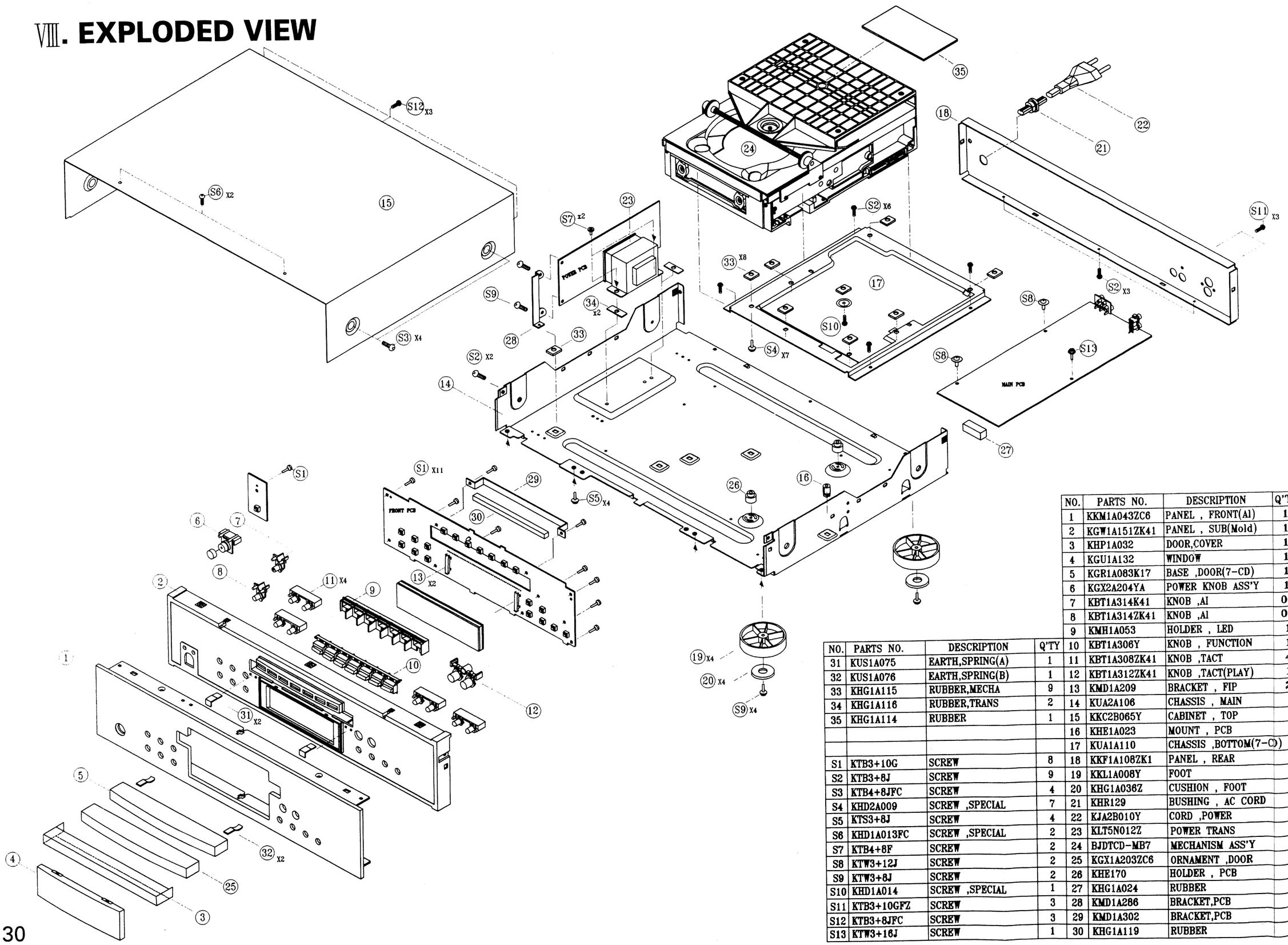


FRONT PCB



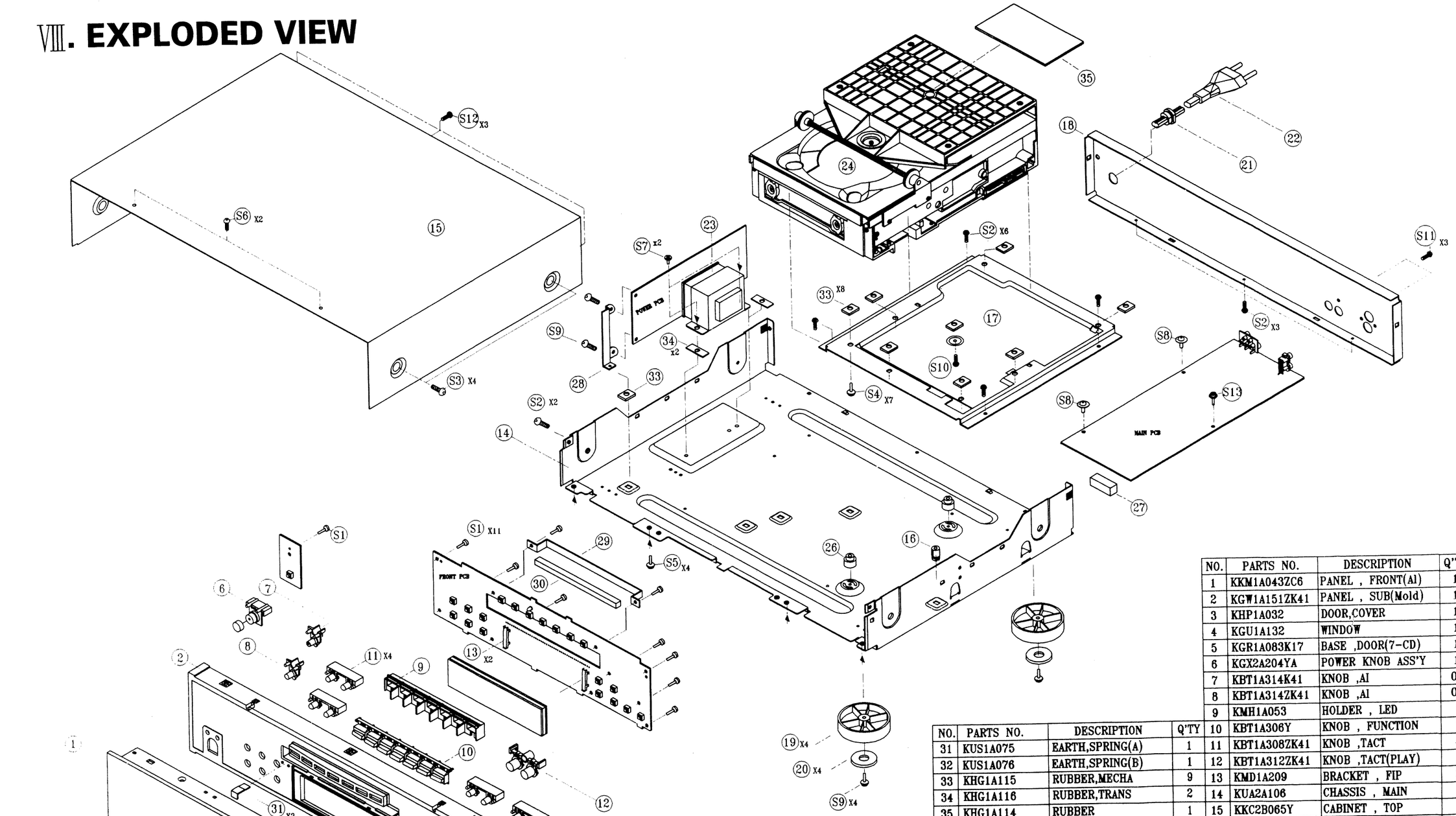
KUP10811Z

Ⅷ. EXPLODED VIEW



NO.	PARTS NO.	DESCRIPTION	Q'TY
1	KKM1A043ZC6	PANEL , FRONT(Al)	1
2	KGW1A151ZK41	PANEL , SUB(Mold)	1
3	KHP1A032	DOOR,COVER	1
4	KGU1A132	WINDOW	1
5	KGR1A083K17	BASE ,DOOR(7-CD)	1
6	KGX2A204YA	POWER KNOB ASS'Y	1
7	KBT1A314K41	KNOB ,Al	0.5
8	KBT1A314ZK41	KNOB ,Al	0.5
9	KMH1A053	HOLDER , LED	1
10	KBT1A306Y	KNOB , FUNCTION	1
11	KBT1A308ZK41	KNOB ,TACT	4
12	KBT1A312ZK41	KNOB ,TACT(PLAY)	1
13	KMD1A209	BRACKET , FIP	2
14	KUA2A106	CHASSIS , MAIN	1
15	KKC2B065Y	CABINET , TOP	1
16	KHE1A023	MOUNT , PCB	1
17	KUA1A110	CHASSIS ,BOTTOM(7-CD)	1
18	KKF1A108ZK1	PANEL , REAR	1
19	KKL1A008Y	FOOT	4
20	KHG1A036Z	CUSHION , FOOT	4
21	KHR129	BUSHING , AC CORD	1
22	KJA2B010Y	CORD ,POWER	1
23	KLT5N012Z	POWER TRANS	1
24	BJDTCD-MB7	MECHANISM ASS'Y	1
25	KGX1A203ZC6	ORNAMENT ,DOOR	1
26	KHE170	HOLDER , PCB	2
27	KHG1A024	RUBBER	1
28	KMD1A286	BRACKET,PCB	1
29	KMD1A302	BRACKET,PCB	1
30	KHG1A119	RUBBER	1
31	KUS1A075	EARTH,SPRING(A)	1
32	KUS1A076	EARTH,SPRING(B)	1
33	KHG1A115	RUBBER,MECHA	9
34	KHG1A116	RUBBER,TRANS	2
35	KHG1A114	RUBBER	1
S1	KTB3+10G	SCREW	8
S2	KTB3+8J	SCREW	9
S3	KTB4+8JFC	SCREW	4
S4	KHD2A009	SCREW ,SPECIAL	7
S5	KTS3+8J	SCREW	4
S6	KHD1A013FC	SCREW ,SPECIAL	2
S7	KTB4+8F	SCREW	2
S8	KTW3+12J	SCREW	2
S9	KTW3+8J	SCREW	2
S10	KHD1A014	SCREW ,SPECIAL	1
S11	KTB3+10GFZ	SCREW	3
S12	KTB3+8JFC	SCREW	3
S13	KTW3+16J	SCREW	1

Ⅷ. EXPLODED VIEW



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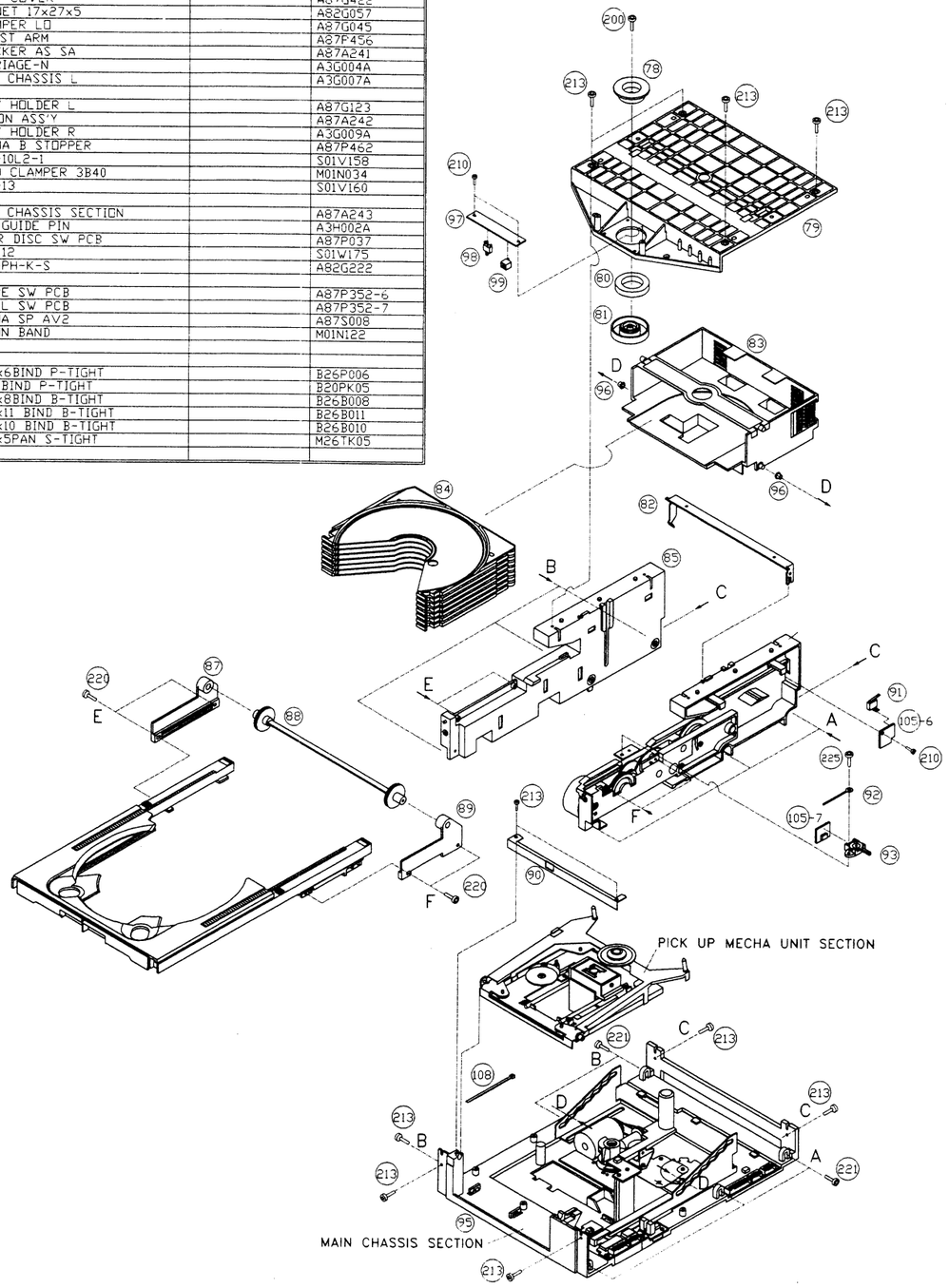
4	KGU1A132	WINDOW	1
5	KGR1A083K17	BASE ,DOOR(7-CD)	1
6	KGX2A204YA	POWER KNOB ASS'Y	1
7	KBT1A314K41	KNOB ,Al	0.5
8	KBT1A314ZK41	KNOB ,Al	0.5
9	KMH1A053	HOLDER , LED	1
10	KBT1A306Y	KNOB , FUNCTION	1
11	KBT1A308ZK41	KNOB ,TACT	4
12	KBT1A312ZK41	KNOB ,TACT(PLAY)	1
13	KMD1A209	BRACKET , FIP	2
14	KUA2A106	CHASSIS , MAIN	1
15	KKC2B065Y	CABINET , TOP	1
16	KHE1A023	MOUNT , PCB	1
17	KUA1A110	CHASSIS ,BOTTOM(7-CD)	1
18	KKF1A108ZK1	PANEL , REAR	1
19	KKL1A008Y	FOOT	4
20	KHG1A036Z	CUSHION , FOOT	4
21	KHR129	BUSHING , AC CORD	1
22	KJA2B010Y	CORD ,POWER	1
23	KLT5N012Z	POWER TRANS	1
24	BJDTCD-MB7	MECHANISM ASS'Y	1
25	KGX1A203ZC6	ORNAMENT ,DOOR	1
26	KHE170	HOLDER , PCB	2
27	KHG1A024	RUBBER	1
28	KMD1A286	BRACKET,PCB	1
29	KMD1A302	BRACKET,PCB	1
30	KHG1A119	RUBBER	1
31	KUS1A075	EARTH,SPRING(A)	1
32	KUS1A076	EARTH,SPRING(B)	1
33	KHG1A115	RUBBER,MECHA	9
34	KHG1A116	RUBBER,TRANS	2
35	KHG1A114	RUBBER	1
S1	KTB3+10G	SCREW	8
S2	KTB3+8J	SCREW	9
S3	KTB4+8JFC	SCREW	4
S4	KHD2A009	SCREW ,SPECIAL	7
S5	KTS3+8J	SCREW	4
S6	KHD1A013FC	SCREW ,SPECIAL	2
S7	KTB4+8F	SCREW	2
S8	KTW3+12J	SCREW	2
S9	KTW3+8J	SCREW	2
S10	KHD1A014	SCREW ,SPECIAL	1
S11	KTB3+10GFZ	SCREW	3
S12	KTB3+8JFC	SCREW	3
S13	KTW3+16J	SCREW	1

Ⅸ. MECHANISM ASS'Y

NO	PARTS NAME	DRAWING NO.	PARTS CODE
78	CLAMPER HI		A87G046
79	TOP COVER		A87G422
80	MAGNET 17x27x5		A82G057
81	CLAMPER LO		A87G045
82	ASSIST ARM		A87F456
83	STOCKER AS SA		A87A241
84	CARRIAGE-N		A3G004A
85	SIDE CHASSIS L		A3G007A
87	TRAY HOLDER L		A87G123
88	PINION ASS'Y		A87A242
89	TRAY HOLDER R		A3G009A
90	MECHA B STOPPER		A87P462
91	MSS-10L2-1		S01V158
92	CORD CLAMPER 3B40		M01N034
93	SSS-13		S01V160
95	MAIN CHASSIS SECTION		A87A243
96	STC GUIDE PIN		A3H002A
97	OVER DISC SW PCB		A87P037
98	SW-112		S01W175
99	S28-PH-K-S		A82G222
105-6	STORE SW PCB		A87P352-6
105-7	OP/CL SW PCB		A87P352-7
107	MECHA SP AV2		A87S008
108	NYLON BAND		M01N122
200	M2.6x6BIND P-TIGHT		B26P006
210	M2x5BIND P-TIGHT		B20PK05
213	M2.6x8BIND B-TIGHT		B26B008
220	M2.6x11 BIND B-TIGHT		B26B011
221	M2.6x10 BIND B-TIGHT		B26B010
225	M2.6x5PAN S-TIGHT		M26TK05



X. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list the Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the dellvery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
3. How to read the Parts List.

■ Resistor and Capacitor

Notes : · Part numbers are indicated for most mechanical parts.
Please use this part number for parts order.
· IMPORTANT SAFETY NOTICE.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacture's specified parts.
· The unit of resistance is OHM(Ω)
K=1000(Ω), M=1000(K Ω)
· The unit of capacitance is MICROFARAD(μF).
· P=10^{-6}μF

■ Numbering System of Resistor

Example

KRD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
KRD:Carbon	20:1/5W	F:=±1%
KRG:Metal Oxide	25:1/4W	J:=±5%
	50:1/2W	K:=±10%
	1:1W	
KRF:Metal Cement	2:2W	
	3:3W	

■ Numbering System of Capacitor

Example

KCKR	1H	101	K	B
Type	Voltage	Value	Tolerance	Peculiarity

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
KCB:Ceramic	OJ:6.3V	1H:50V DC	C:±0.25pF
KCC:Ceramic	1A:10V	1:125V DC	G:±2%
KCK:Ceramic	1C:16V	KC:400V AC	J:±5%
KCFR:Semiconductor	1E:25V		K:±10%
KCQI:Polyester	1H:50V		Z:+80%, -20%
KCQP:Polypropylene	1V:35V		
KCQS:Polystyrol			

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

BJDYCD-MB7

MECHANISM

LD
COM
MP
VR
FO-
TR-
TR+
FO+
B+D
A+C
COM
E
F
SLED
LIMITED SW
MOTER
SPDL

BN13
BN12

R208 100
C218 100/16V
C207 100/16V
C208 0.1
C214 100/16V
RF
VC
C217 100/16V
C216 10P
Q106 A1266Y
D107 1N4148
L101 10mH
C215 0.001
R205 100
R215 5.6K
R214 12K
R213 10K
C213 3P
C212 0.0047(M)
C210 0.01(M)
C211 0.01(M)
C209 0.033(M)
0.0022(M)
0.0082(M)

R207 22K
FOCUS BIAS ADJUST
VR02 50K
R206 22K
E/F BLANCE ADJUST
R201 18K
VR04 22K
R530 2.2K
TRACKING GAIN ADJUST
VR03 22K
R203 150K
R202 100K
C205 0.01(M)
C203 0.01(M)
R529 2.2K
C202 0.01(M)
C200 0.1(M)

PD2 PD1 PD LD RF_M RF_O RF_I CP CB CC1 CC2 FOK SENS C.OUT XRST DATA XLT CLK VCC ISET SL_O SL_M SL_P TA_M
FEBIAS F E E1 VEE TEO LPF1 TE1 ATSC TZC TDFCT VC
FEO FE1 SDPCT FGD FLB SE_O SE_M SRCH SGU TG2 FSET 12M_M

IC01
CXA1782BQ

R232 2.2K
FOCUS GAIN ADJUST
VR01
CN08
C231 2200P(M)
C230 2200P(M)
R228 680K
C232 0.047(M)
C234 0.1(M)
R223 68K
C227 47P
C228 470P
C229 4.7/50V
C226 0.033(M)
R221 510K
C225 0.015
R224 220K
R307 100K
R230 10K
R233 10K

CN99
S-
S+
COM
INNER
SPDL+
SPDL-

+8

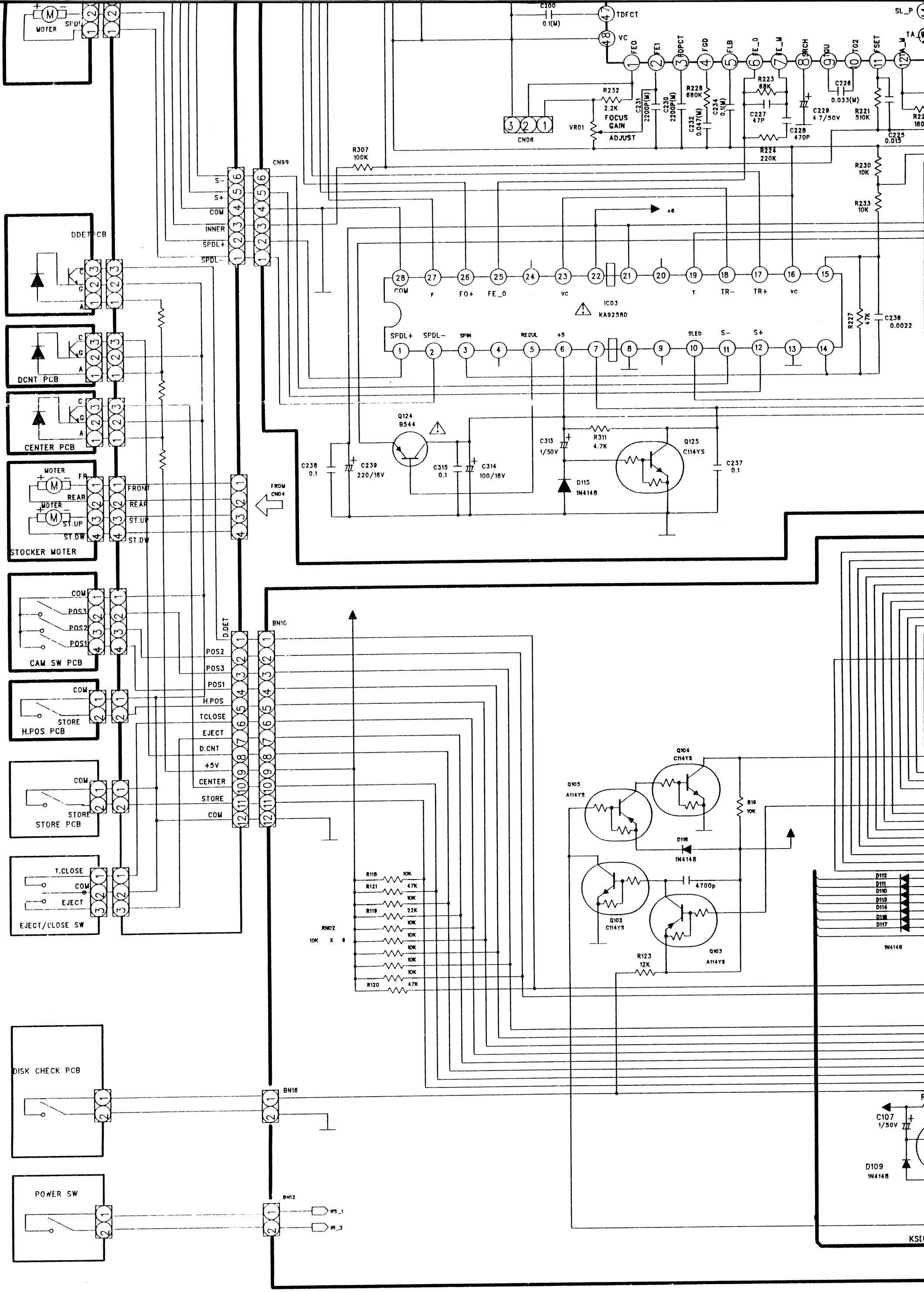
COM F FO+ FE_O VC T TR- TR+ VC
IC03
KA9258D
SPDL+ SPDL- SPIN RECUL +5 SLED S- S+
R227 47K
C236 0.0022

DDET PCB
DCNT PCB
CENTER PCB
STOCKER MOTER
MOTER FR REAR ST.UP ST.DW
FRONT REAR ST.UP ST.DW
FROM CN04
CAM SW PCB
COM POS3 POS2 POS1
H.POS PCB
COM STORE

D.DET
BN10
POS2 POS3 POS1 H.POS TCLOSE EJECT D.CNT +5V CENTER STORE

Q124 B544
C238 0.1
C239 220/16V
C315 0.1
C314 100/16V
C313 1/50V
R311 4.7K
Q125 C114YS
C237 0.1
D115 1N4148

Q104 C114YS
Q105 A114YS
R19


MOTER
SPDL
DDET PCB
DCNT PCB
CENTER PCB
STOCKER MOTER
CAM SW PCB
H.POS PCB
STORE PCB
EJECT/CLOSE SW
DISK CHECK PCB
POWER SW
CN99
S--
S+
COM
INNER
SPDL+
SPDL-
D.DET
BN10
BN16
BN12
FROM CN04
FRONT
REAR
ST.UP
ST.DW
POS2
POS3
POS1
H.POS
TCLOSE
EJECT
D.CNT
+5V
CENTER
STORE
T.CLOSE
R307 100K
CN08
VR01
R232 2.2K
FOCUS GAIN ADJUST
C231 2200P(M)
C230 2200P(M)
C232 0.047(M)
C234 0.1(M)
R228 680K
R223 68K
C227 47P
C228 470P
C229 4.7/50V
C226 0.033(M)
R221 510K
C225 0.015
R224 220K
R230 10K
R233 10K
R227 47K
C236 0.0022
C200 0.1(M)
TDFCT
VC
FEO
FE1
RDPCT
FGD
FLB
FE_O
FE_M
SRCH
TGU
TG2
FSET
SL_P
TA
IC03 KA9258D
COM
F
FO+
FE_O
VC
T
TR-
TR+
SPDL+
SPDL-
SPIN
REGUL
+5
SLED
S-
S+
Q124 B544
C238 0.1
C239 220/16V
C315 0.1
C314 100/16V
C313 1/50V
R311 4.7K
Q125 C114YS
C237 0.1
D115 1N4148
RN02 10K X 8
R118 10K
R121 47K
R119 22K
R120 47K
Q104 C114YS
Q105 A114YS
R19 10K
D118 1N4148
4700p
Q102 C114YS
Q103 A114YS
R123 12K
D112
D111
D110
D115
D114
D113
D117
1N4148
C107 1/50V
D109 1N4148
KS1(
M5_1
M1_3

C200 0.1(M)
TDFCT
VC
SL_P
TA_P
C222 0.1(M)
C223 10/16V
R401 33K
R225 270K
FEO FE1 FDPCT FGD FLB FE_O FE_M SRCH TGU TG2 FSET TA_M
R232 2.2K FOCUS GAIN ADJUST
VR01
C231 2200P(M)
C230 2200P(M)
R228 680K
C232 0.047(M)
C234 0.1(M)
R223 68K
C227 47P
C228 470P
C229 4.7/50V
C226 0.033(M)
R221 510K
R218 150K
R222 180K
C235 0.015(M)
C225 0.015
R224 220K
R230 10K
R233 10K
+8
VC T TR- TR+ VC
IC03
KA9258D
R227 47K
C236 0.0022
+5 SLED S- S+
C313 1/50V
R311 4.7K
Q125 C114YS
C237 0.1
D115 1N4148
R303 3.3K
C301 0.047
R301 3.3K
R302 6.8K
C304 0.0015
C302 100/16V
C303 0.1
C305 0.0022
C306 220P
R304 1M
NC VPCO VCKI FILO FILI PCO AVSS CLTV AVDD RF
BIAS ASYI ASYO ASYE NC PSSL WDCK LRCK VDD SDATA CLK DA14
R305 100K
R306 10K
C307 4.7/50
C308 0.01
C309 100/16V
C310 0.1
Q123 A916
C318 100/16V
R313 560
R312 10K
FROM CPU
PWSW
C559 0.1
Q128 C114YS
LIMIT LDON SCOR SENS C.OUT FOK GFS XLAT CLOK SQCK SQSO DATA MUTE
CN07
BN07
Q104 C114YS
Q105 A114YS
R19 10K
D118 1N4148
4700p
Q102 C114YS
Q103 A114YS
R123 12K
D112 D111 D110 D115 D114 D116 D117
1N4148
IC01
U-COM
ANAM1121C
RECI SCOR SENS C.OUT FOKI RECO OFSI XLAT CLOK MUTE DATA SQCK SQSO LEDC KS_0 KS_1 KS_2 KS_3 KS_4 KS_5 KS_6 KS_7
VcTX DSEN P2SW
SG18 SG15 SG04 SG11 SG05 SG13 SG12 SG03 SG10 SG14 SG01 SG02 SG08 SG09 SG06 SG07
PR_L PW_L PWSW OPEN
D113 1N4148
KS_0 KS_1 KS_2 KS_3
KI_4 OPEN/CLOSE STOP FREV PGCL
KI_3 INTRO POWER FFWD
KI_2 LAST PROGRAM NEXT
KI_1 PAUSE PLAY RANDOM DISC2
KI_0 DISC3 DISC5 DISC1 DISC7
Q101 A114YS
R124 220
D107 D106
R117 4.7K
C107 1/50V
C108 0.1
XL01 4.19MHz
C109 12P
C110 12P
D109 1N4148
Q106 C114YS
D108 LED RED
R122 330
KS[00:07]

RF
VC
C217 100/16V
+5VA
+5V
C214 100/16V
Q105 A1266Y
R209 22
R210 10K
R211 680
FROM CPU LD ON
Q106 A1266Y
D107 1N4148
L101 10mH
C215 0.001
C216O 10P
R215 5.6K
R214 12K
R213 10K
C213 3P
C212 0.0047(M)
C210 0.01(M)
C211 0.01(M)
C209 0.033(M)
0.0022(M)
0.0082(M)
18K
22K
1N4148
C564 180P
C565 220P
C566 220P
R19 10K
C563 180P
C551 0.1
IC01
CXA1782BQ
PD2 PD1 PD LD RF_M RF_O RF_1 CP CB CC1 CC2 FOK
FEBIAS F E E1 VEE TEO LPF1 TE1 ATSC TZC TDFCT VC
SENS C.OUT XRST DATA XLT CLK VCC ISET SL_O SL_M SL_P TA_P
FEO FE1 ADPCT FGD FLB FE_O FE_M SRCH TGU TG2 FSET TA_M
C221 100/16V
C220 0.1
R216 150K
C224 0.015(M)
R217 56K
R229 8.2K
C222 0.1(M)
C223 10/16V
R401 33K
R225 270K
R218 150K
C226 0.033(M)
R223 68K
C227 47P
C229 4.7/50V
C228 470P
R224 220K
R221 510K
C225 0.015
R222 180K
C235 0.015(M)
R232 2.2K
FOCUS GAIN ADJUST
VR01
C231 2200P(M)
C230 2200P(M)
R228 680K
C232 0.047(M)
C234 0.1(M)
R230 10K
R233 10K
+8
R303 3.3K
C301 0.047
R301 3.3K
R302 6.8K
C304 0.0015
C302 100/16V
C303 0.1
C305 0.0022
C306 220P
R304 1M
R305 100K
R306 10K
C307 4.7/50
C308 0.01
C309 100/16V
C310 0.1
IC02
CXD2500BQ
FOK FSW MON MDP MDS LOCK NC VCOO VCOI TEST PDO VSS NC NC NC VPCO VCKI FILO FILI PCO AVSS CLTV AVDD RF
MIRR CLKO XLTO DATO CNIN SEIN CLOK VDD XLAT DATA XRST SENS MUTE SQCK
BIAS ASYI ASYO ASYE NC PSSL WDCK LRCK VDD SDATA CLK DA14 DA13 DA12
Q123 A916
R313 560
R312 10K
C318 100/16V
FROM CPU
PWSW
C559 0.1
Q126 C114YS
IC03
KA9258D
vc T TR− TR+ vc
SLED S− S+
R227 47K
C236 0.0022
R311 4.7K
Q125 C114YS
C237 0.1
D115 1N4148
CN07
LIMIT LDON SCOR SENS C.OUT FOK GFS XLAT CLOK SQCK SQSO DATA MUTE
D113 1N4148
D119 1N4148
KS_0 KS_1 KS_2 KS_3 KS_4
KI_4 OPEN/CLOSE STOP FREV PGCL
KI_3 INTRO POWER FFWD TIME
KI_2 LAST PROGRAM NEXT SKIP
KI_1 PAUSE PLAY RANDOM DISC2 DISC4
KI_0 DISC3 DISC5 DISC1 DISC7 NO_6
RECI SCOR SENS C.OUT FOKI RECO
Q104 C114YS
Q105 A114YS
R19

MAIN PCB
KUP10810Z

CN98: GND, MUTE, +5, SBSO, EXCK, WPCK, SCOR

IC02
CXD2500BQ

C564 180P
C565 220P
C566 220P
R19 10K
C563 180P
C551 0.1

C301 0.047
R301 3.3K
R302 6.8K
C305 0.0022
C306 220P
R304 1M
R305 100K
R306 10K
C307 4.7/50
C308 0.01
C309 100/16V
C310 0.1

R309 390
R310 390
XL01 16.934M
C311 12P
R308 100K
C312 12P

IC16
SM5840

J153 220
J154 220
J152 220

IC15
PCM69AP

C438 0.1
C505 47/16V
C506 47/16V
C507 22/16V
C502 100/16V
C501 0.1
C504 100/16V
C503 0.1
22/16V

-15V
+15V

bottom chassis in
IC18
NJM7808FA
8V
L132 10mH
C319 100/16V
C320 0.1
C318 100/16
C317 0.1
C321 0.1
C324 3300/25
PWSW

CN07: LIMIT, LDON, SCOR, SENS, C.OUT, FOK, GFS, XLAT, CLOK, SQCK, SQSO, DATA, MUTE

FRONT PCB
KUP10811Z

D113 1N4148
D119 1N4148

KS_0 KS_1 KS_2 KS_3 KS_4 KS_5 KS_6 KS_7

KI_4	OPEN/CLOSE	STOP	FREV	PGCL		IDX-	IDX+	NO_0
KI_3	INTRO	POWER	FFWD		TIME	NO_9	NO_8	NO_7
KI_2	LAST		PROGRAM	NEXT	SKIP	NO_6	NO_5	NO_4
KI_1	PAUSE	PLAY	RANDOM	DISC2	DISC4	NO_3	NO_2	NO_1
KI_0	DISC3	DISC5	DISC1	DISC7	NO_6	REPEAT 1/ALL	REPEAT A-B	

R129 R128 R127 R126 R125 10K

BN02 CN02: 5V, GND, GRID, FIP, FIP

POWER PCB
KUP10810Z

IC17
7805
C117 0.1
C118 220/16
C112 0.1
C113 470/16
BD01 BEAD CORE
C550 0.1
D106 12V
R106 100

FRONT PCB
KUP10811Z

POWER PCB
KUP10810Z

IC16
SM5840

IC18
NJM7808FA

IC17
7805

IC02
LB1258

IC04
LB1638

BN02
CN02
BN03
CN03
CN04

F.I.P

LED GREEN

TO MECHA

POWER PCB
KUP1081OZ

FUSE
T 615mA L 250V

SCHEMATIC DIAGRAM

CN98 (7 6 5 4 3 2 1): GND, MUTE, +5, SBSO, EXCK, WPCK, SCOR

A114YS: R1 = 10K, R2 = 47K

C114YS: R1 = 10K, R2 = 47K

IC15 PCM69AP: DGND, DATA R, BCK, S CLK, WDCK, DATA L, TPI, DVDD, AGND, Vcom, Iout, REF, S DC, Iout, Vcom, AVCC

IC08 KA4558P (1/2), (2/2)

IC09 KA4558P (1/2), (2/2)

IC07 KA4558P

IC12 7815

IC13 7915

IC18 NJM7808FA

IC17 7805

IC14 7808

Q114 A114YS

Q113 C114YS

Q115 D1302

Q116 D1302

Q101 A916

D101 1N4003

D102 1N4003

D103 1N4003

D116 1N4003

D117 1N4003

D118 1N4003

D119 1N4003

D106 12V

JK01

JK02

L132 10mH

BD01 BEAD CORE

CN02: 5V, GND, GRID, FIP, FIP

CN1: RELAY, PW3W, B+, GND, B−, V+, GND

POWER PCB KUP1061OZ

bottom chassis in

8V

12V

PWSW

BN01

MUTE

GND DEEM MUTE REST

VDD WDCK DOL DOR GND

■ ELECTRICAL PARTS LIST

REF NO.		PART NO.	DESCRIPTION
P. C BOARD BLOCK PART NO.			
		Part No.	Description
		KOP10810B	MAIN PCB ASS'Y
		KOP10811B	FRONT PCB ASS'Y
MAIN PCB BLK CONSISTS OF FOLLOWING P. C. B			
* MAIN P. C. BOARD			
* POWER P. C. BOARD			
* POWER SW P. C. BOARD			
* REGULATOR IC P. C. BOARD			
FRONT PCB BLK CONSISTS OF FOLLOWING P. C. B			
* FRONT P. C. BOARD			
1. MAIN PCB			
IC01		BVICXA1782BQ	IC
IC02	⚠	BVICXD2500BQ	IC
IC03	⚠	KVIKA9258D	IC
IC06	⚠	KVIKIA4558P	IC
IC07	⚠	KVIKIA4558P	IC
IC08	⚠	KVIKIA4558P	IC
IC09		KVIKIA4558P	IC
IC12		KVIMC7815C	IC
IC13		KVIMC7915C	IC
Q105		KVTKTA1266YT	T. R
Q106		KVTKTA1266YT	T. R
Q113		KVTDTC114YST	T. R
Q114		KVTDTA114YST	T. R
Q115		KVTKTD1302T	T. R
Q116		KVTKTD1302T	T. R
Q123	⚠	KVTKSA916YT	T. R
Q124		KVT2SB544NPF	T. R
Q125		KVTDTC114YST	T. R
Q126		KVTDTC114YST	T. R
D107		KVT1N4148MT	DIODE
D115		KVT1N4148MT	DIODE
RES, SEMI			
VR01		BVN1PA203B01T	RES, SEMI
VR02		BVN1PA503B01T	RES, SEMI
VR03		BVN1PA203B01T	RES, SEMI
VR04		BVN1PA203B01T	RES, SEMI
XL01		KOX16934A120C	CRYSTAL
C324		KCEA1EH332E	CAP, ELEC
MECHANISM			
		BJDTCD-MB7	MECHANISM

REF NO.		PART NO.	DESCRIPTION
2. POWER PCB			
IC04		BVILB1638	IC
IC05		BVILB1638	IC
IC14	⚠	KVIKA7808A	IC
IC17	⚠	KVIMC7805C	IC
Q101		KVTKSA916YT	IC
D105		KVDMTZJ33DT	DIODE, ZENER
D106		KVDMTZJ12BT	DIODE, ZENER
D101~103	⚠	KVD1N4003SV	DIODE
D116~119	⚠	KVD1N4003SV	DIODE
PT01	⚠	KLT5N012ZE	POWER TRANS
R101	⚠	KRQ1CJR47	RES, FUSE
R102	⚠	KRQ1CJR47	RES, FUSE
RN01		KRGSN4X103J	RES, NETWORK
C101		KCEA1JH221E	CAP, ELEC
C110		KCEA1EH332E	CAP, ELEC
C538		KCEA1VAU222EH	CAP, ELEC
C541		KCEA1VAU222EH	CAP, ELEC
	⚠	KBA2C0630TLE	FUSE
	⚠	KJA2B010Y	POWER CORD
3. FRONT PCB			
IC01		BVIANAM1121C	MCU
IC02		BVILB1258	IC
Q101		KVTDTA114YST	T. R.
Q103		KVTDTA114YST	T. R
Q105		KVTDTA114YST	T. R
Q102		KVTDTC114YST	T. R
Q104		KVTDTC114YST	T. R
Q106		KVTDTC114YST	T. R
FL01		BFLCM1425CC	FIP
XL01		KOX04194E120C	CRYSTAL
D101~107		BVDLNJ301MPUJA	LED, GREEN
D108		KVD342VCF02T085	LED, RED
D109~119		KVD1N4148MT	DIODE
RN02		KRGSN6X103J	RES, NETWORK
S101~119		KST1A012ZT	TACT, SW
BN02		KWZCD3000CBN02	WIRE ASS'Y
BN03		KWZCD3000CBN03	WIRE ASS'Y
BN07		KWZCD3000CBN07	WIRE ASS'Y
BN10		KWZCD3000CBN10	WIRE ASS'Y
BN15		KWZCD3000CBN15	WIRE ASS'Y
BN16		KWZCD3000CBN16	WIRE ASS'Y
BN22		KWZCD3000CBN22	WIRE ASS'Y